VOL. VIII NEW SERIES No. 12

DECEMBER, 1899

RE
1
C4
V.8
no.12
Biological
& Medical
Serials

THE OPHTHALMIC RECORD

EDITED BY

CASEY A. WOOD, M. D. Chicago
G. C. SAVAGE, M. D. Nashville
GEO. E. DE SCHWEINITZ, M.D. Philadelphia
JOHN E. WEEKS, M. D. New York
EDWARD JACKSON, M. D., Denver, Colo.
H. V. WÜRDEMANN, M. D. Milwaukee
W. E. HOPKINS, M. D. San Francisco
HAROLD GIFFORD, M. D. Omaha

T. A. WOODRUFF, M. D.
EDITORIAL SECRETARY,
103 E. ADAMS STREET, CHICAGO, ILLS.

PUBLISHED ON THE FIFTEENTH OF THE MONTH

SUBSCRIPTION RATES: IN THE UNITED STATES, CANADA AND MEXICO, $3.00 PER ANNUM, IN ADVANCE. OTHER COUNTRIES OF THE POSTAL UNION, 14 SHILLINGS

THE OPHTHALMIC RECORD
THE HIGH BUILDING, CHICAGO, U. S. A.

Entered at the Chicago Post-Office as second-class matter R. R. Donnelley & Sons Co. Printers, Chicago

COLLABORATORS.

Francis Valk, M.D., New York.

F. B. Eaton, M.D., San Francisco, Cal.

A. W. Calhoun, M.D., Atlanta, Ga.

J. W. Stirling, M.D., Montreal, Can.

Frank Allport, M.D., Chicago.

Melville Black, M.D., Denver, Col.

Alvin A. Hubbell, M.D., Buffalo, N. Y.

Wm. Dudley Hall, M.D., Boston, Mass.

E. Oliver Belt, M.D., Washington, D. C.

Robert L. Randolph, M.D., Baltimore, Md.

John F. Fulton, M. D., St. Paul, Minn.

C. Devereux Marshall, F.R.C.S. Eng., London, Eng.

Dr. Edwin Van Millingen, Constantinople, Turkey.

Dr. George J. Bull, Paris, France.

Dr. James W. Barrett, Melbourne, Australia.

The January number of the Ophthalmic Record will contain, among others, an article by Geo. E. de Schweinitz, M.D., "A Case of Retinitis Circinati," with colored frontispiece; one by C. M. Culver, M.D., "Abnormally Acute Vision"; one by Frank W. Marlow, M.D., "A Case of Congenital Incomplete Ophthalmophlegia Externa"; one by E. J. Brown, M.D., "A Case of Irido-Cyclitis Involving Hemorrhage and Hypopyon and Extensive Deposits in the Vitreous, with Final Restoration of Good Vision." There will also appear editorials, reviews, society reports, and news items of interest to the profession.

The Record particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles when accepted are contributed to the Record exclusively. Illustrative cuts will be made at the expense of the journal, and proofs for correction will be sent to authors when desired. Reprints with covers are furnished at cost. One hundred of these will be presented to authors *gratis* when a request for them is written on the original manuscript. The Record will be issued monthly, and each number will contain about 54 pages of reading matter.

Address all communications relating to Editorial Department to

T. A. WOODRUFF, M.D., Editorial Secretary,
103 E. Adams Street, Chicago.

Subscriptions and advertisements should be sent to the publisher, The High Bldg., Chicago, Ill., U. S. A.

Sole Subscription Agents for Great Britain, J. Raphael & Co., 51 Clerkenwell Road, London, E. C.

TABLE OF CONTENTS.

I. ORIGINAL ARTICLES.

1. Thrombosis or Embolism of the Central Artery of the Retina after Ligation of the Vessels of the Neck, *by* **H. Gifford, M.D.,** *Omaha, Neb.* 595
2. A Simple Eye Shade, *by* **S. Mitchell, M.D.,** *Hornellsville, N. Y.* (Illustrated) 598
3. Two Cases of Methyl Alcohol Amuarosis from the Inhalation of the Vapor, *by* **R. S. Patillo, M.D.,** *Chicago* 599
4. A Case of Obstructed Retinal Circulation, with a Series of Pictures Showing the Changes in the Vascular System during its Re-establishment and the Formation of New Vessels in the Retina, *by* **Swan M. Burnett, M.D., Ph.D.,** *Washington, D. C.* (Illustrated) 601

II. EDITORIALS.

1. Recent Researches on the Genesis of Quinine Amaurosis 610
2. The General Practitioner as a Refractionist 613
3. The Oculist vs. The Optician 615

III. CORRESPONDENCE.

1. Credit Where It is Due, *by* **Edward Jackson, M.D.,** *Denver, Col.* 619
2. Additional Cases of Methyl Alcohol Amaurosis, *by* **J. F. Raub,** *Washington, D. C.* 619

IV. REVIEWS.

1. Notes on a Rare Epithelial (Horny) Growth on the Upper Eyelid of a Female, *by* **Dr. Vieusse** 621
2. Landolt's New Optotypes 624

V. REPORTS OF SOCIETIES.

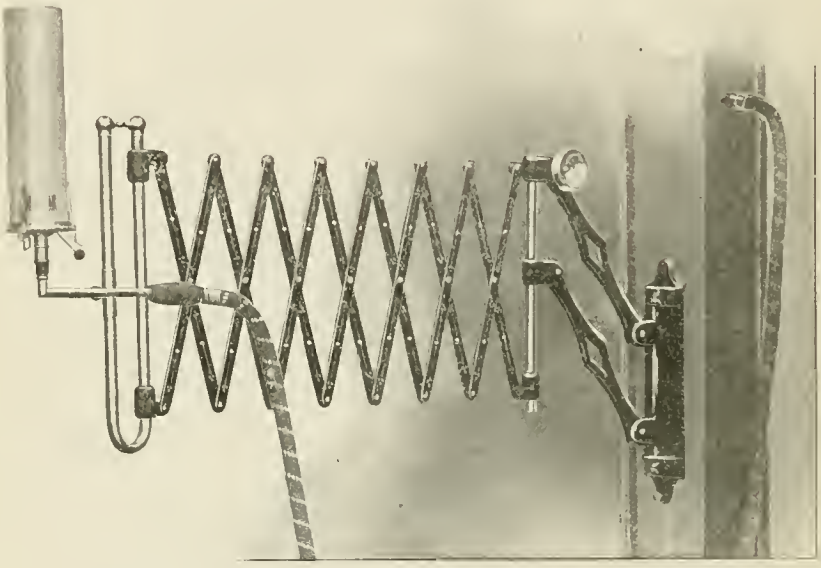
1. Section on Ophthalmology, College of Physicians, Philadelphia 627
2. Ophthalmological Society of the United Kingdom 630
3. Kansas City Ophthalmological Society 632
4. Chicago Ophthalmological and Otological Society 633

VI. NEWS ITEMS.

1. Personals and Items of Interest 639

:: A New ::

Adjustable Gas Bracket



THE **HARDY-GEUDTNER ADJUSTABLE BRACKET** here shown for the first time has the following points that will speak for themselves, if you are in need of an illuminating apparatus.

FIRST — It has an extreme length of five feet in any direction from the place it is fastened, and can be adjusted without the use of set screws, by simply pulling out or shoving back, to any desired position, within the radius of five feet.

SECOND — It has an adjustment for raising and lowering of eight inches each above and below the point of fastening, and the burner or globe has a further adjustment of four inches either up or down.

THIRD — It takes up a space of only twelve inches when not in use and folded back against the wall.

Price Complete with tubing and argand burner for gas, or wired for electricity, with globe. **$7.50**

MANUFACTURED AND FOR SALE BY

F. A. HARDY & COMPANY,

WHOLESALE OPTICIANS

131-137 WABASH AVENUE, CHICAGO, ILL.

CALIFORNIA OPTICAL CO.
San Francisco, Cal.
Agents Pacific Coast.

GLOBE OPTICAL CO.
Boston, Mass.
Agents for New England.

D. V. BROWN,
Agent for
Philadelphia, Penn.

Prentice Retinoscope

The Instrument of the hour

Patents Pending, UNITED STATES, GREAT BRITAIN and CANADA.

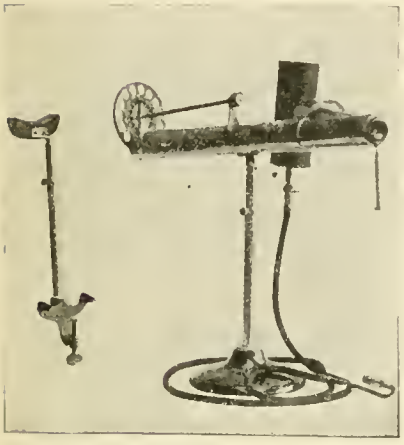


Illustration A, with base complete

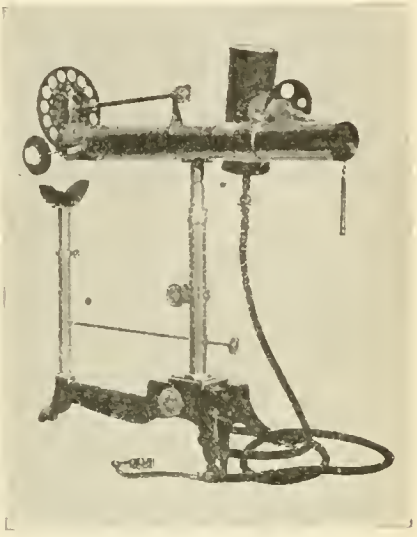


Illustration B, showing adjustable Duplex base and Chin rest

Price complete with lighting attachment, . . .	$45.00
Extra for Chin Rest, ...	5.00
Extra for Duplex Base, ...	22.50

Subject to usual cash discount of six per cent.

Illustration A shows instrument arranged for gas attachment complete and ready for use. It also shows mechanism for using light on either side or top of instrument, thus enabling the patient to fix on some distant object with the eye not under examination and receive full benefit of the relaxation of the ciliary muscles.

A NEW FEATURE

We have designed an adjustable Duplex base as per illustration B, upon which can be mounted a Prentice Retinoscope.

For this base we charge $22.50 extra. The Duplex base carries rack and pinion adjustments to raise and lower the chin rest; also to raise and lower the instrument and to shift it forward and back. Every desired position is readily controlled by the Duplex base.

For further particulars and specific instructions, see Booklet which is sent free on application.

Geneva Optical Company

SOLE MANUFACTURERS

63 and 65 Washington Street, CHICAGO, ILL.

LISTERINE IN Ophthalmology and Otology

The same satisfactory results following the use of LISTERINE in all sub-acute and chronic inflammations of mucous membrane (whether urethral, vaginal, nasal, or pharyngeal) is attained by its *judicious* employment upon the more sensitive surfaces of the eye and ear.

The presence of pus, and succulent appearance of an abraded surface, with tendency to capillary hæmorrhage, are certain indications for LISTERINE, which has been pronounced, by an authority in the treatment of these affections, "A balsamic astringent without a rival."

LISTERINE IN Rhinology and Laryngology

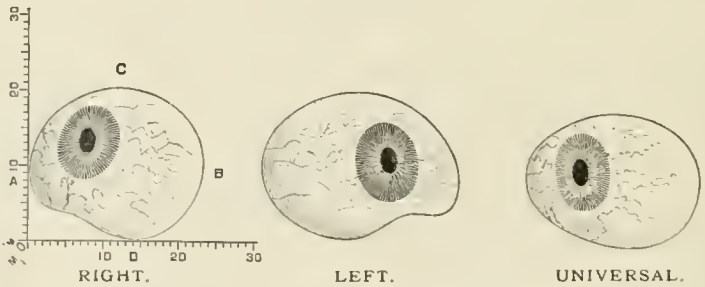
In the treatment of Chronic Nasal Catarrh, and the varied affections of the Nose, Throat, and Lungs, the advantages of LISTERINE are such that it has superseded many of the oldest and most popular remedies. With its certain antiseptic and prompt deodorant properties, it combines a mild stimulating influence (easily graded by dilution free from irritating effect. Applied by means of spray to those surfaces which are accessible, it quickly loosens tenacious mucus secretions, and the boracic acid, being in perfect solution, is readily conveyed to, and deposited upon, the innermost recesses of the air passages.

DESCRIPTIVE LITERATURE UPON REQUEST.

Lambert Pharmacal Company, St. Louis.

LISTERINE is kept in Stock by the leading dealers in Drugs and Medicines throughout the World.

ARTIFICIAL HUMAN EYES.



RIGHT. LEFT. UNIVERSAL.

We carry in stock a large and well assorted line of **Artificial Eyes** of the very best quality.

We send out packages for selection to responsible parties, and solicit your orders. When samples cannot be sent please answer the following questions:

1. Has an artificial eye been worn?
2. Is natural eye present, or been removed?
3. For right or left eye?
4. Length of Eye, A to B?
5. Width of eye, C to D?
6. Diameter of iris?
7. Diameter of pupil?
8. Color of iris?
9. White of eye clear, yellowish, or Bluish?
10. Is the arcus senilis (circle of old age) present?

Send for order blanks and prices on eyes.

GLOBE OPTICAL CO., Boston, Mass.

THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME VIII. CHICAGO, DECEMBER, 1899. NO. 12. NEW SERIES

ORIGINAL ARTICLES.

THROMBOSIS OR EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA AFTER LIGATION OF THE VESSELS OF THE NECK.

BY H. GIFFORD, M.D.,

OMAHA, NEB.

Henry Moore, a German, aged 56, was operated upon April 26, 1898, by Dr. A. F. Jonas for epithelioma of the left tonsil. The tumor was removed by an external incision, both carotids and jugulars being tied in the course of the operation. Immediately after the operation the nurse noticed that the pupil of the left eye was much smaller than that of the right, but it was not until May 3d that the patient noticed that this eye was blind. He did not think that the blindness could have existed before this, though this opinion must, of course, be accepted with some reserve. On examining the patient, at Dr. Jonas' request, I found that the eye had no perception of light, the pupil was small and did not respond to direct light stimulus. The outlines of the optic disc were entirely lost in a prominent mass of glistening white œdematous tissue about twice the diameter of the normal disc. The swelling was more pronounced in the lower half, where it reached a height of 3D. The surrounding retina was slightly œdematous, but not distinctly white except at the macula, in the center of which the ordinary cherry spot was present. Upon the surface of the œdematous tissue, in the place of the papilla, only one vessel could be made out, the others showing themselves more or less indistinctly at

the borders of the central swelling, and those which contained any blood showed it in interrupted necklace-like columns. The distinction between arteries and veins was hard to make out, the columns of blood being perhaps more broken up in the arteries. I saw the patient again after about ten days, and by this time the œdema of the nerve and the surrounding retina had almost entirely disappeared. The column of blood in the vessels was continuous, but their diameter was decidedly less than the normal and the arteries had none of the usual glitter. The man made a good recovery from the operation, but died in the course of two months from pneumonia without regaining any sight in the eye.

It seems to me probable that the trouble with this man's eye was due to thrombosis rather than embolism, and from the marked swelling of the optic disc, I judge that the thrombosis affected not only the central retinal artery, but the small vessels supplying the optic disc as well.

At the time that this observation was made I had never heard of such an accident after ligation of the vessels of the neck. But a few months afterwards, at the meeting of the Heidelberg Ophthalmological Society, Siegrist reported two similar cases.* In one of these the patient was a man with carcinoma of the tongue, after the removal of which a profuse secondary hemorrhage occurred, which necessitated the ligation of the common and internal carotids. The eye on the same side became blind soon after the ligation and the patient died six days later. The post mortem showed a thrombosis in the internal carotids extending from the point of ligation into the vessels of the brain, and for a short distance into the ophthalmic artery. The greater part of the latter artery was free, but at the point where the central artery of the retina was given off, an embolus completely obliterating this branch was found. The ophthalmoscopic picture presented was that ordinarily found with embolus of the central artery of the retina. The second case was that of a young man with traumatic pulsating exophthalmus; both internal and external carotids were tied and the eye of the same side became blind, with the same ophthalmoscopic picture as that in the preceding case; and in the course of the next few months atrophy of the retina, with accumulation of the pigment in bone-corpuscle formed clumps, and sclerosis of the choroidal vessels occurred. In the discussion of this paper Uhthoff mentioned a case which had been reported by him at the international congress at Rome, but which, through some oversight, had been published in the proceedings of the congress by title only. In this case, after the ligation of the internal (or common) carotid, the thrombosis extended from the

(*_Bericht der Ophthal. Gesellschaft_, Wiesbaden, 1898.)

point of ligation up beyond the point at which the ophthalmic artery was given off, with resulting amaurosis and the ordinary appearances of embolism of the central retinal artery, although a microscopic examination failed to discover any thrombosis or embolism within the orbit. He also mentions another case in which a thrombosis of the carotid extended beyond the point at which the ophthalmic was given off, but in this case neither blindness nor any decided ophthalmoscopic change occurred.

In a case reported by A. Graefe (*Deutche Med. Woch. 40, 1898*) choked disc developed ten days after ligation of the common carotid for pulsating exophthalmus, but in this case the patient regained his sight. If the change in the nerve had occurred immediately after the ligation, in this case, it would seem probable to me that it was not a real neuritis, but an œdema from thrombosis of the small vessels supplying the papilla; as it was, embolism of some of these vessels may have occurred from a partial breaking down of the thrombus extending from the carotid into the beginning of the ophthalmic artery. That the picture of choked disc may be simulated by thrombosis or embolism of the small arteries is suggested by the appearance of the nerve in the case which I report. Here the œdema of the nerve-head was so pronounced in comparison with the changes in the surrounding retina that I was at first inclined to make a diagnosis of choked disc rather than that of thrombosis or embolism.

With regard to the corneal changes which have been observed after ligation of the carotid for pulsating exophthalmus, it is probable that most of them are due to superficial lesions resulting from exposure of the cornea on account of the prominence of the globe, and have no direct connection with the ligation of the blood vessel; but that some of them may be due to the interference with the circulation is indicated by the microscopic examination of the first of Siegrist's cases, where a sort of parenchymatous degeneration was observed, similar to that noticed by Wagenmann after section of the long ciliary arteries.

These cases are not reported with the idea that they may form any positive contra-indication to ligation of the carotid for pulsating exophthalmus. Where other remedies fail and the symptoms are so annoying that the patient is willing to assume considerable risk for the chance of being rid of them, it is undoubtedly the proper thing to do; but among the dangers of which the patient should be warned, that of a possible loss of sight should not be forgotten. That it does not occur more frequently is probably, as Uhthoff suggests, because the anterior anastomoses of the ophthalmic artery are sufficient to prevent it; and to guard against

it as well as possible it has been suggested to attempt to widen these anastomoses by compression of the carotid, at intervals, for some days previous to the operation. This might well tend to prevent brain complications, but as the anterior anastomoses of the ophthalmic are chiefly with branches of the extreme carotid, little service would be done to the eye unless an incision were made to allow the pressure to be limited to the internal carotid.

A SIMPLE EYE SHADE.

BY S. MITCHELL, M.D.,

HORNELLSVILLE, N Y.

Oculist and Aurist to St. James Mercy Hospital, Oculist to the Erie Railroad.

Illustrated.

It has been my custom for several years, during the after treatment of cataract cases, to cover both eyes for three days only; then if the case is progressing satisfactorily, the unoperated eye is uncovered, but the operated eye is kept covered for three days longer. Pads of cotton and a narrow roller bandage of Shaker flannel are generally used for this purpose. Sometimes the bandage is dispensed with and narrow strips of isinglass plaster are used to hold the pads of cotton in place. In addition to these dressings, an aluminum shield is placed over the operated eye and secured in place by tapes passed around the head. This shield is worn constantly during the first six days. At the end of the third day, when the unoperated eye is left uncovered, a large paper shade, such as is described below, is placed in front of the eyes and worn for ten days.

I have been using a shade of this sort for all cataract cases since my return from a trip to Europe about four years ago. It is fashioned after those I saw used by Dr. Argyll Robertson at the Royal Infirmary at Edinburgh.

The kindly and courteous attention which this scholarly gentleman bestowed upon me, an unknown American doctor in a strange land, is worthy of a more fitting tribute of praise than simply this short article describing his paper shade. For the delightful hours spent with this famous specialist at his clinic is one of the cherished memories of my first and only visit to the interesting city of Edinburgh.

On account of the extreme simplicity of these shades the thought of writing about them never occurred to me until a few days ago, while I was preparing one for a patient, for whom I had recently extracted a cataract. I believe that all who operate for cataract are sufficiently inter-

A Simple Eye Shade.

ested in the little things connected with the operation, the after treatment, and the general comfort of the patient, to be glad to learn of this easily prepared convenience.

The two photographs presented herewith give a good idea of the shade and the way it is worn. The lady who appears in this photograph is the patient referred to above. This sitting was made just seven days after the operation.

The shades which I saw used by Dr. Robertson were made from dark colored manilla paper. A piece 5x10 inches, with the two lower corners rounded, forms the shade. A strip of the same 1 inch wide and 12 to 14 inches long, is pinned or sewed to the upper corners, thus forming a head band which encircles the head in such a manner as to bring the shade into about the same position that a very wide, long, and nearly vertical visor to a cap would occupy.

I have found a very light weight, black cardboard to be admirable material from which to construct these shades. The extreme light weight, together with the cleanliness and cheapness and ease with which a shade of this sort may be procured, will, I think, commend it to all operators.

TWO CASES OF METHYL ALCOHOL AMAUROSIS FROM THE INHALATION OF THE VAPOR.

BY R. S. PATILLO, M.D.

Instructor in Ophthalmology, Post Graduate Medical School.
CHICAGO.

The following cases* of toxic amblyopia occurring in my practice present some points of unique interest in that they differ materially in the manner in which the poison was taken into the system; namely, by inhalation. On reviewing the literature at my command, I cannot find any similar cases reported.

J. G., æt. 36; painter. On July 10, 1899, was engaged with his partner, Mr. E., in shellacing some new beer vats. The shellac was mixed with Columbia spirits, said to contain 97-98 per cent alcohol, sp. gravity 0.796, three coats of which were applied to each vat. The vats, eight in number, size 20x11 feet, were inclosed, except a vent-hole of about 18 inches square. The temperature of vats was about 70° F. After working four days Mr. G. had to discontinue on account of

*These cases were presented to the Chicago Ophthalmological Society, November 13, 1899, by Dr. Casey Wood.

nausea, dizziness, and severe frontal headache. On the fifth day he noticed his sight was fogged, and on the sixth day he became totally blind. Total blindness lasted for a week, when gradually sight returned until he could see to go round, and to read large headlines of a paper. Two weeks later sight again began to fail, until the following conditions remain:

R. E., vision fingers at three feet; optic disk has a bluish tint; retinal vessels normal; tension normal.

L. E., light perception only; optic disk opaque white; vessels slightly contracted.

Previous history: Sight had always been good; was a moderate smoker, and only stimulant used was an occasional glass of beer. No history or symptom of specific trouble.

R. E., æt. 31; painter; J. G.'s partner; has been at similar work for several years, but this was the first time he had mixed the shellac with Columbia spirits. After working for two weeks, symptoms similar to those stated in the case of J. G. set in, and he had to discontinue work. The day following he noticed his sight dim, and on the next day became totally blind. He was unable to see for twenty-four days, and then sight gradually improved until the following conditions exist:

Vision—R. E., fingers at 3 feet.
L. E., fingers at 1 foot.

In both eyes retinal vessels normal; capillaries on the disk well marked; disks opaque white.

Previous history: Sight had always been good; was a very moderate user of tobacco and stimulants. No signs of any specific disease.

The Cause of Blindness in Children.—Dr. Förster, director of the Ophthalmological Clinic at Breslau, has recently published some instructive statistics regarding the causes, other than ophthalmia neonatorum, of blindness in children. According to these, injury to the eyesight, with consequent blindness, is mostly occasioned by carelessness, more than 20 per cent of these cases being caused by playing with sharp instruments and 12 per cent by malicious injury, such as blows, stone-throwing, whipping, and unsuitable means of correction. Similar results are shown by the statistics of most other ophthalmological clinics. Boissoneau, of Paris, reports that of nine hundred and thirty-nine children who were blind in one or both eyes, more than three hundred and fifty were injured by shooting and by explosion of percussion caps.—*New York Medical Record.*

A CASE OF OBSTRUCTED RETINAL CIRCULATION, WITH A SERIES OF PICTURES SHOWING THE CHANGES IN THE VASCULAR SYSTEM DURING ITS RE-ESTABLISHMENT AND THE FORMATION OF NEW VESSELS IN THE RETINA.

BY SWAN M. BURNETT, M.D., PH.D.,
Professor of Ophthalmology and Otology in Georgetown University,
WASHINGTON, D. C.

Illustrated.

In presenting the following case I do not use the term "embolism of the central artery" advisedly, because I am not sure the obstruction was due to an embolus. In most of its clinical features, however, it presents the characteristics usually found in cases considered as due to that cause. I do not remember to have seen any pictorial representation of the sequences or changes in the circulation which occur in the fundus following an accident such as is here recorded, nor have I before had an opportunity of observing such a case from the very beginning through a number of months. The alteration in the vascularization during the progressive stages of reëstablishment of the circulation seem to me very remarkable, and it is on this account principally that I have reported the case. The drawings are not claimed to be photographic in their accuracy of detail, as they are made from sketches taken during consultation hours, but the main and striking features are such as were observed. The development of apparently new vessels, and the change in course, or total disappearance of those already present, strike me as the interesting features of the fundus pictures.

Senator M., 85 years old, was sent to me by Dr. S. C. Busey, of this city, on the morning of May 9, 1894. He reported that on coming down stairs to breakfast, some three hours before, he noticed that he was practically blind in the right eye—the one on which he had hitherto relied almost altogether, the vison in the other being defective. There was no pain nor other uncomfortable sensation complained of. Both pupils were small, but of equal size. In the right eye nothing remained of the visual field except a small sector outward and slightly downward. The pupil was dilated with homatropine for examination. The lens was found to be clear with the exception of some opacity at the inner margin. The other

media were normal. The outline of the optic disc was distinct, but all the retinal vessels present were much reduced in caliber. The branch of the artery running upward was visible only as a fine red line, and was represented by a white cord just above the disc for the distance of a disc diameter.

(See Fig. 1.) The two arteries running downward were also very thin, assuming that the one running to the temporal side to be an

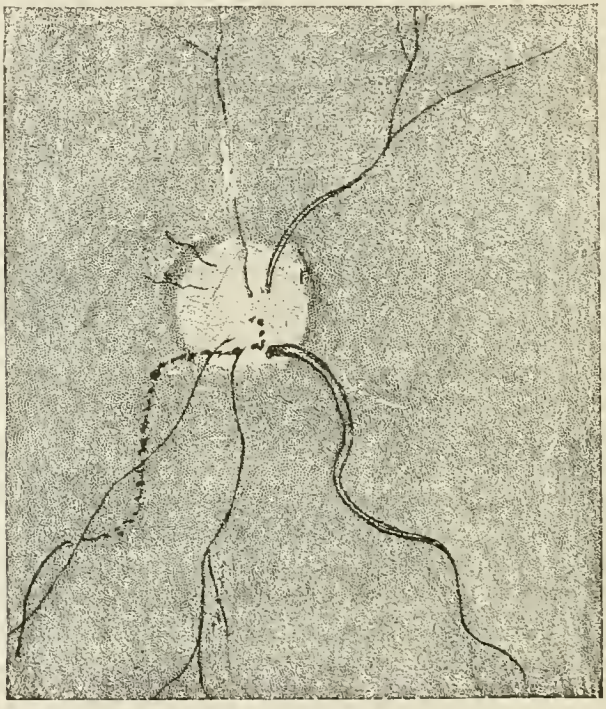


Fig. 1.

artery. The veins were somewhat but not markedly tortuous, except the one running down and to the temporal side. This had the characteristic beaded appearance from its origin on the disc to its first bifurcation, two disc diameters below. There was no edema of the retina and no cherry-red spot at the macula—nor was there any appearance of either during the whole time the patient was under observation—this usual feature of embolism being entirely absent. On

the 10th the veins seemed a little fuller, the arteries remaining about the same. The clear field of vision, roughly tested, had increased somewhat in size, and in it vision without a glass was 5/24. 11th—The *left* eye was examined, under homatropine, for comparison with the condition of the right. The fundus was normal, and the retinal vessels were about double the size of those in the right. The lens had striæ running from the edge up to near the center, which was the cause of the

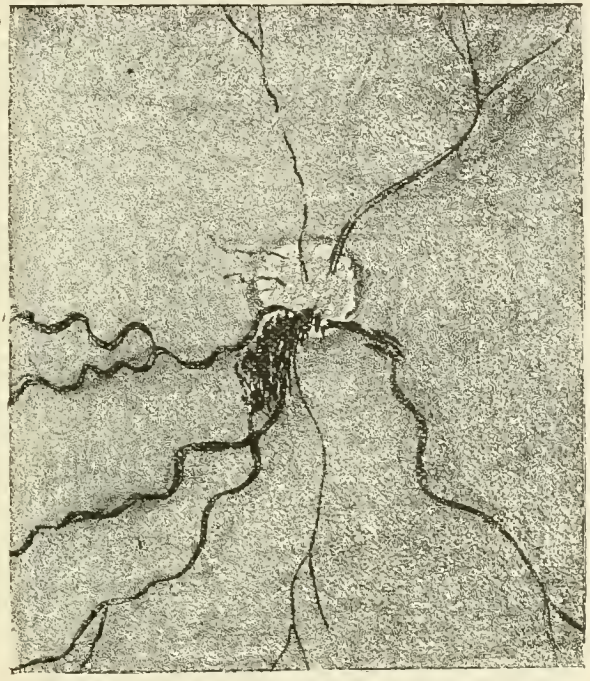


Fig. 2.

diminished vision in that eye. The condition of the right had changed to that shown in Fig 2. The veins were now much enlarged and tortuous, and there were two hemorrhages near the lower edge of the disc, coming apparently from the ruptured walls of the lower veins. The small line to the temporal side, which was taken for an artery in Fig. 1, had assumed a size and tortuosity like that of the veins. The superior artery had still a discontinuance of blood contents in two places. The lower artery remained practically the same. The small temporal vessels were unchanged.

In the intact portion of the visual field, with +1, V=5/18. 12th and 14th—Conditions practically the same, except that the hemorrhages are being absorbed. There is, however, a faint exudation from the vein running up and in. The upper end of the superior artery is larger and more sharply rounded. 16th—Condition same. 19th—Hemorrhages disappearing. All the veins are narrower on or near the disc than at the

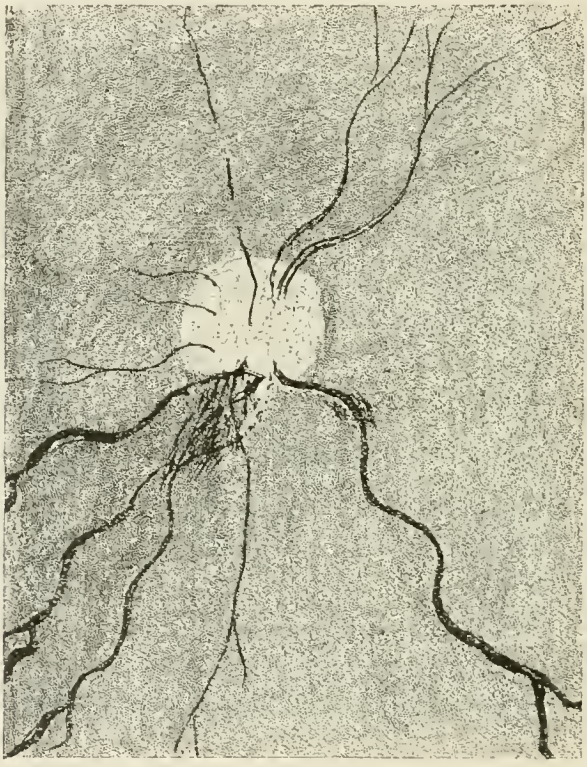


Fig. 3.

periphery, and are losing their tortuosity. Upper artery still visible only as a faint red line—V.F. same; with +7 reads No. 2 at 12 inches. 24th—Further narrowing of the veins, which are still larger toward the periphery. At seat of hemorrhage outlines of vessels not so clear. 30th—The condition is shown in Fig. 3. The disc is much whiter than normal. Upper artery is broken in two places, and otherwise only a faint red line. At

seats of hemorrhage still some dimness of outlines of vessels. The small temporal vessels have been increased by one above the two others. June 12th—Disc increasing in whiteness. Lower artery represented by a white streak from edge of disc to its first bifurcation. (Fig. 4.) Upper artery in about the same condition. A large vein—apparently one of the smaller temporal veins—much increased in size and length, with tortuosi-

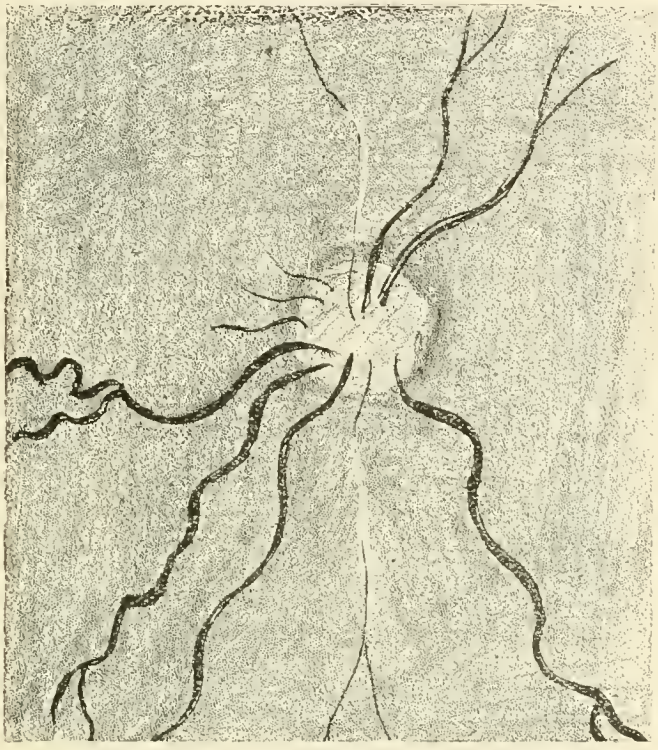


Fig. 4.

ties at its extremity. All the veins increased in size, and apparently one added up and in. Vision and V.F. unchanged.

The patient now went to his home in a distant state and was not seen again until January 7, 1895, when an examination revealed the rather extraordinary condition shown in Fig 5.

The disc is quite white. Instead of an artery running almost directly down, as was the case in the former pictures, there are what seem to be

two arterial branches, one running down, and in the other down and out, the latter possibly being a refilling of the artery, shown in Fig. 1, running approximately in the same direction, but which disappeared after a few days. This one has a white border for a part of its course. Of course there is still the question as to whether these were really arteries, or only shrunken and collapsed veins. The position of the

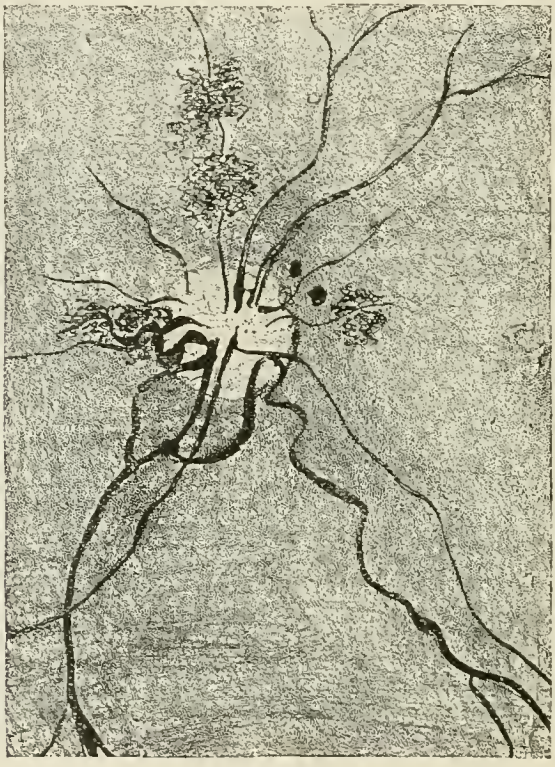


Fig. 5.

upper artery is marked by a narrow red cord, with a white streak occupying a large part of its visible length. This white streak is bordered by a red mass of rather open texture, which does not seem to extend far into the vitreous chamber. The mass has not the character of a blood effusion, but seems to consist, at least partly, of very small capillaries bunched together. The mass near the upper inner edge of the disc has the same character. The two small, round, black spots

in the same vicinity are pigment deposits. The lower, small vein, running to the temporal side from the disc, is very tortuous during its short course, and has some of the same red mass about it. The unusual course of the lower vessels is so apparent in the figure as to need no further description. Vision about as at last report. The visual field was taken by the perimeter, and was found as shown in Fig. 6, from which it has not materially differed since the tenth day after the attack.

The patient, I learn from a communication from Dr. Busey, has not had any organic heart trouble; but his circulation, on account of his

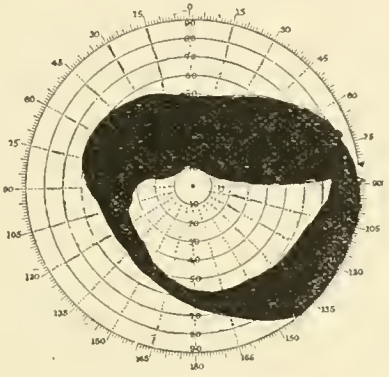


Fig. 6.

advanced age, is not in good condition, and he has had several illnesses recently due to that. He inclines to the theory of an embolism as the cause.

It is not perfectly clear, in this case, as to what the obstruction in the retinal circulation is due. It is not necessary, however, to call in an embolus brought from a distance to find a lodging in the central retinal artery to account for it.* It is much more likely that the stoppage was brought about by a thrombosis, caused by a temporary suspension or slowing up in the blood current, the result of a feeble heart and atheromatous arterial walls, or to an effusion pressing on the optic nerve anterior to the point of entrance of the blood vessels. It will

*There seems to be an increasing skepticism among the profession as to embolism of the central artery. The latest expression of this is found in the article on the "Diseases of the Circulatory System," by Prof. Haab, in Norris & Oliver's System, Vol. IV, 1900. On page 501 he says: "Since examining anew all the literature pertaining to this affection, the writer not only reiterates his expressed opinion, but goes a step further and says that *the entire theory of embolism of the central artery of the retina requires fundamental verification in order that light be shed upon many of its obscure points.*"

be observed that the stoppage was not complete, for there was a small sector of the visual field left intact, even from the beginning, which has remained practically unchanged. This corresponded to the upper inner portion of the retina, including the macula lutea. To the upper inner portion of the retina no artery was seen to go. The vein corresponding to this region, however, suffered less changes throughout than any of the others, and it is to be inferred, from this, that the circulation was but little interfered with in that locality. There was nothing to indicate the existence of a cilio-retinal vessel. The absence of edema of the retina, and the cherry red spot at the macula are also unusual.

The formation of new capillary vessels, principally along the course of the retinal arteries, which had been closed, coming on many months after the initial lesion, and subsequent to the complete disappearance of the hemorrhages, is an interesting feature of the case, taken in connection with the more recent studies of the so-called *retinitis proliferans.* The general consensus of opinion, at present, is that these changes in the retina and vitreous, consisting of membrane and vessel formation, are in some way directly connected with extravasated blood. Yet, in the case here reported, the most extensive of the new formation of vessels was along the course of an occluded artery, where there had never been a hemorrhage, and they were not observed at all at the location where hemorrhages had taken place. Nevertheless, it cannot be doubted that this new formation of blood vessels is a part of the pathological change, and the result of a morbid process existing in the retina.

In this connection it may be of interest to call attention to some investigations made by Tornatola of Messina, contained in a paper read by him at the late Internat. Med. Congress at Moscow, and published in the *Ann. di Ott,* for September and October, 1897. These are concerning the development of the vitreous in the embryo. He finds in the embryonic vitreous two distinct forms of cell: *a.* A large cell with granular nucleus and homogeneous protoplasmic contents, identical with the mesodermic cells of the embryo. These cells undergo modification and evolution, and finally form the blood vessels of the embryonic vitreous. He denominates these the *vaso-formative cells,* which serve but a temporary office in the formation of blood vessels. *b.* The small spherical corpuscles, finely granular, ordinarily without a nucleus, and about the size of a lymphoid cell. These appear at a relatively advanced period of embryonic life, and persist to complete development, forming the proper substance of the vitreous. He considers, therefore, the vitreous to be an ectodermic production — a secretion of the retinal cells —

a substance analogous to the "tissue of secretion" of Hensen, Emery, and Ficalbi. It is not a true tissue, however, since it is not constituted of cells and an intercellular substance.

He then calls attention to a tendency, more or less well recognized in pathologic change, for tissues under certain conditions to revert to its embryonal forms; giving instances observed by Ciacco and the Duke Theodor Karl, in retinitis albuminuria, in which there were found, in the vitreous, large numbers of delicate fibers starting from the posterior portion of the retina, and proceeding from there forward in the direction of the lens, and which he regards as examples of a reversion to the cells (*b*), under the influence of a pathologic process. An application of the same law could explain the appearance of blood vessels by a pathologic process, which would call into activity the function served by the *vaso-formative cells.* Under this theory, it would not be necessary to assume that the blood vessels following hemorrhages are necessarily a transformation of the substance of the blood clot itself into vascular tissue. All that is essential is some process which shall recall into activity the vaso-formative cells. What the necessary conditions for this are we are yet in ignorance.

But the most marked feature of the eye-ground picture is the final change which took place in the vascularization of the lower portion of the retina as shown in Fig. 5. Of the descending artery, of which there were remnants visible in Fig. 4, there is not the faintest trace. On the other hand, the vessel to the right, which seemed to be a vein, has narrowed to the caliber of an artery. The descending vein on the left side has undergone great changes near the disc, forming loops and anastomoses, and a large branch is given off to the right, running up over the edge of the disc, and then descending in a tortuous manner by the side of the other straight vessel on that side. Whether these are newly formed vessels, or old vessels filled out, I find myself unable to decide, though the probabilities seem to lie in the direction of new formation.

THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME VIII. CHICAGO, DECEMBER, 1899. No. 12. NEW SERIES

EDITORIALS.

RECENT RESEARCHES ON THE GENESIS OF QUININE AMAUROSIS.

In the OPHTHALMIC RECORD for August, 1898, the writer summarized our knowledge of experimental quinine amblyopia, making special reference to Ward Holden's researches communicated in the preceding July to the American Ophthalmological Society. This observer, it will be remembered, found that, to quote his own words, "with the lessened but not obliterated blood supply due to spasm of the vessels in quinine poisoning, the less resistant elements of the inner layers of the retina, the ganglion cells and nerve fibers, break down, while the cells of the inner nuclear layers are not visibly affected. An ascending degeneration of the optic nerve fibers follows the retinal changes. No histological alterations at this period are found in the retinal vessels, or in those of the optic nerve." This atrophy of the optic nerves Brunner and the writer had long before demonstrated in their experiments, performed at a time when the newer histological methods employed by Holden were unknown, and, therefore, is probably to be regarded as a *secondary* effect of the toxic action of this agent, which, according to Holden's researches, exerts its primary influence on the deeper portions of the cerebral layer of the retina, that is, on the ganglion cells and the nerve fibers.

In this editorial no mention was made of the paper of De Bono, published in the *Archiv. di Ottal.*, Palermo, 1894, II, pp. 171–227, in which, on the basis of experimental researches, he announced that the retinal ischæmia evident in quinine poisoning was not the sole cause of the

functional disturbances, inasmuch as the latter may disappear while the ischæmia still remains, and in which he ascribed the visual disturbance to alterations in the percipient end-elements of the optic nerve, because in frogs poisoned by quinine there is lack of movement in the pigment molecules of the pigment epithelium. In other words, he believes that quinine produces a paralyzing influence on the neuro-epithelium of the retina.

Recently De Bono (*Archiv. di Ottal.*, Palermo, 1899, VI, pp. 398–409) has renewed the discussion, and has presented further experimental proof of his theory, because he felt that its firm substantiation required additional evidence that the alterations were present only in the neuro-epithelium. Moreover, he desired to employ the refinements in histological investigations which had appeared since his original paper. He, therefore, induced acute poisoning in dogs by means of hypodermic injections of quinine, brought about blindness in two hours, killed the animals in this condition, and removed the eyes, the optic nerves, and pieces of the cerebral cortex. These tissues were properly prepared for microscopic examination and stained in various ways, particularly with methylene blue, with thionin, and with Delafield's hæmatoxylin. The cerebral cortex was treated by the Golgi-Cajal method, the optic nerves after the manner of Marchi, and other specimens were stained with safranin. Similar tissues from normal dogs were treated by the same methods.

Under the microscope the ganglion cells of the retinas of the quinine dogs, prepared in this way, killed two hours after the injection of quinine in sufficient quantities to produce acute blindness, presented exactly the same appearances that they did in normal dogs. Only after a long time (four days) was De Bono able to note a slight breaking down of the chromatic bodies, and he never met with any profound alterations in the cellular protoplasm. In the other elements of the retina no deviations from the normal could be observed. On the other hand, he found extensive lesions in the ganglion cells of the cortex, even after the lapse of only two hours, with marked alterations in the chromatic bodies and changes in the protoplasm. The optic nerves examined after the manner of Marchi exhibited no degeneration, and the preparations stained with safranin gave the same negative result.

He, therefore, concludes that even if it is admitted that some of the fibers of the optic nerve, long after the occurrence of intoxication, show nutritive changes, and even if these changes are constant, they are not sufficient to invalidate his hypthesis that quinine paralyzes the neuro-

epithelium of the retina to the exclusion of the other tissues of this membrane, and he is satisfied he has given a rational explanation of the pathogenesis of acute quinine blindness, and one, moreover, which furnishes a basis for therapeutic consideration.

That the ganglion cells of the retina are not demonstrably affected as early as two hours after a single toxic dose of quinine, is evident also from Ward Holden's experiments. Such lesions first appeared on the third day in the form of degenerative changes—changes, however, which De Bono failed to find in his animals as late as the fourth day. This discrepancy might at first sight be explained by the fact that he gave but one dose of quinine and did not repeat it. Indeed, he objects to the repetition of the dose, because he maintains it produces a subacute form of quinine poisoning, and not true acute toxæmia. That this explanation is not entirely satisfactory is evident from the fact that Ward Holden found ganglion cell changes in a dog killed on the third day after a single toxic dose, some degree of vision having returned, and in a dog killed on the fourth day after four injections. The first dog was killed with chloroform, the second by bleeding. Two observers, however, may readily disagree in their interpretation of beginning alterations in the retinal ganglion cells, when we remember that there is not absolute accord in regard to the histological structure of these bodies: witness, for example, the varied descriptions of Dogiel, Bach, and Lodato.

Later on, we know, there is complete disappearance of the ganglion-cell layer and degeneration of the optic nerve fibers. In Holden's dogs the latter lesion began on the seventeenth day, and in the writer's animals it was marked before the end of a month, atrophy being almost total at the end of two months. Curiously enough, De Bono failed to observe this atrophy, but again it must be remembered that his observations relate particularly to the very earliest stages of quinine amaurosis when this is caused by a single dose, and not to what he calls sub-acute or chronic quinine poisoning, that is to say, to quinine blindness produced and maintained by a repetition of the dose of the drug. That repeated administrations of quinine, however, are not necessary to produce optic nerve atrophy is evident from one of Holden's experiments, in which the dog became permanently and totally blind from a single injection, with degeneration of the medullary sheaths of the optic nerves.

In his first quinine research (1890) the writer described thrombi in the central vein of the optic nerve, and in his second paper (1891) thickening and collapse of the nutrient arteries of the nerve, and occasionally (two specimens) obstruction of the central vessel with a partially

organized thrombus. De Bono, who also has found thrombi in the veins of the sheath, thinks such lesions might serve to explain the permanent blindness which occasionally results from quinine. Ward Holden, on the other hand, failed to discover histological alterations in retinal vessels or in those of the retina. To quote from his paper: "The thin-walled central vein of the optic nerve was often found empty and collapsed, and the delicate connective tissue about it, with its small vessels, owing to its being stretched and apparently increased in amount, sometimes suggested the appearance of an organized thrombus in the vein, but this same appearance was noted also in healthy dogs." Evidently the vascular changes in quinine amaurosis require further investigation, although even if they occur, they must be of secondary importance.

If all of the observers are correct, the order of events in quinine blindness would seem to be the following: Paralysis of the neuro-epithelium of the retina manifest two hours after the administration of the toxic dose; degeneration of the ganglion cells and nerve fibers beginning on the third day, which gradually increases; and, finally, degeneration of the optic nerve fibers beginning as early as the seventeenth day and going on to complete atrophy, not only of the optic nerves but of the tracts.

G. E. de Schweinitz.

THE GENERAL PRACTITIONER AS A REFRACTIONIST.

There seems to be a growing belief that the "refracting optician" is capable of doing much harm. His lack of anatomical and physiological knowledge renders him unfit to prescribe for any organ of the body, and especially for the eye, since it at times has important relations with other organs remotely situated from it. It is conceded that many physicians disregard all this, and openly recommend patients to the optician to have their eyes examined. The question is, why do physicians do this, and what are we going to do to prevent it? In proposing a solution of these questions we are incited neither by jealousy nor a feeling of pique. We feel that the ophthalmologist does not lose very much in the long run, as sooner or later these same cases come to him. We are prompted by the feeling that we would like to save these patients who consult us as a last resort, the suffering, time wasted, and the money expended in a vain endeavor to get "something for nothing." Our prognosis in many cases might be more favorable could we have seen the patients at the time they first consulted the optician.

In view of all this we are confident that the ophthalmologist in his war

against the "refracting optician" is prompted by a desire to protect the public against the dangers of incompetency.

We do not feel that the ophthalmologist alone can successfully compete against the advertising methods of the illegitimate optician. We cannot educate the public to understand the risk they run in having their eyes examined by opticians. We must have the assistance of the strong arm of the medical profession. We must convince the general practitioner that the medical profession alone is competent to do refraction work. The general practitioner, because of his close relation with many families, is in a position to do much educational work in this line. We must induce him to take more than a passing interest in this subject. To do this he must become a participant. We have held out the impression that the subject of refraction is exceedingly difficult, and our many technical terms, symbols, and abbreviations have caused the general practitioner to be proud of his ignorance of the subject. As a matter of fact, a careful reading of Valk's little book on refraction, and a little practice on eyes under a cycloplegic, will divest the subject of many of its terrors, and refraction will be found to be a comparatively simple problem in addition and subtraction. We would suggest that instead of discouraging the general practitioner we encourage him to enter into the field with us. Induce him to buy a trial case and an ophthalmoscope, and a simple concise work on refraction, and persuade him to teach his patients that physicians only are capable of fitting glasses. His stubborn cases can be referred to the ophthalmologist. These are the only cases we get now. Why should the general practitioner not fit the simple cases instead of the optician? He is in position to recognize diseased conditions of the eye that the optician would not recognize. He is also in a position to recognize certain symptoms, for which the optician would at once prescribe glasses in hopes of their correction, as coincident with and not dependent upon eye strain. The optician learns to do refraction work in a remarkably short time. The physician certainly should be able to do the same. We feel confident that if physicians generally would do this it would only be a very short time until the "refracting optician" would be no more. All physicians are not so busy that they could not afford to devote some time to this subject. Some are too busy, and others will some day be too busy. Well and good, they will not then need to do it, for they will have accomplished the work of convincing the public that the fitting of glasses should be done only by medical men. It no doubt would be difficult to persuade some of our city friends to take up refraction, but in the country

the medical men can be induced to do it, and it is in the country that the laiety is most ignorant on this subject. It is there that the traveling optician reaps his richest harvest.

There is another reason why this would be of advantage to the ophthalmologist. Our specialty is being rapidly overcrowded by men who take a few weeks' course on the eye at some post-graduate school, and then launch themselves in ophthalmology as specialists. If the general physician could be induced to take more interest in the eye, he would be in position to judge of the ability of the specialists to whom he referred cases. The result would be that ophthalmology in a short time would not be so attractive a field for the young medical graduate with a few weeks' post-graduate attachment as his credential. BLACK.

THE OCULIST VS. THE OPTICIAN.

There are always two sides to each and every question, but according to our understanding of the subject, we are very apt to express our opinion or to place ourselves on that side of the question that will meet our personal views and interests. But when we are asked to consider or to decide a question that must, in many ways, affect the standing and the business interests of many others, and in which we would propose some legislative action, then we must not only consider our own personal desires, but must stand on the broad platform of the best interests of the many, and we must endeavor to look on all sides of the question in a practical manner. The discussion now existing in the relation of the oculist to the optician cannot be settled by one side or the other, and the resolutions of the American Medical Association will by no means assist us in the solution of this question. They but express the opinion of that learned body, while they have no vital force whatever, any more than the opposite views set forth by the opticians.

I have given the matter very careful thought for some time, and must confess that I have yet failed to see a logical solution of the question, or in other words, a way in which we may present this subject to our legislative bodies so that they may take some action in a practical form.

The first practical question that presents itself is : Should the Optician be prevented from prescribing glasses ? This must be answered in the negative, because, by so doing we would place a restriction on too many persons, which would not be tolerated and that in the end would only react on the oculist. In making this assertion I refer to the large majority of men and women who have some simple error of refraction,

as hypermetropia, or myopia, or an emmetropic eye, with a perfectly normal ocular apparatus, and in whom, as age advances, simply require the aid of a convex glass to assist the vision at the near point. Hence any laws that would compel this large body of men and women to seek the aid of the oculist that they may have glasses seems to me to be useless and unconstitutional. But the question then arises, "where shall we draw the line?" May we not find it in this way? In as much as we have laws that prevent the prescribing of drugs by the pharmacists, so we may have laws that shall permit the opticians to prescribe glasses only for such cases that shall meet certain requirements that are within his qualifications and skill. A rule that I understand is at the present time followed out by our best opticians. Now this is only one reason why the optician may prescribe glasses, and yet it seems to me the only one that can be urged in his favor and should be limited to those cases in which the vision as tested shall be found normal. Furthermore, trying to look at a matter in an unprejudiced light, I have endeavored to find out what the optician claims, and I fail to find anything but the fitting of glasses, and yet even in the correct examination of the refraction, in its various forms, requires a certain knowledge of, and ability for, the diagnosis of pathological conditions of the fundus, and is the optician qualified for this work? Granting that he can make the differential diagnosis, what then? He cannot treat the case and must send it to the physician, whom he claims cannot be fully prepared to correct refraction. Again, how can the optician claim the right to examine and to treat the motility of the eye and order his prisms for the various conditions of imbalance or a commencing paresis, for all this comes surely within the domain of physiology and the practice of medicine, and is frequently but the first symptoms of some grave central disease. Hence it seems to me there is no part of an oculist's work which can be relegated to the optician, except that of Presbyopia, which is well known to be only a natural condition of the human eye.

On the other hand—how many reasons can we advance against the examination of the eyes by those not fully qualified for the work? How many cases can we find in the record books of all ophthalmologists in which a positive injury has been done and the priceless vision of many has been permanently injured by the persistent and repeated selling of glasses to persons who have some serious condition of the ocular apparatus, or a pathological process in the tissues of the eye, until they have finally become discouraged and seek the aid of a physician. Then the process has advanced too far to be corrected or relieved. Take as an instance, those cases of simple incipient glaucoma; the patient has no

pain, no obvious symptom in the eyes, but his vision is slowly failing, and he comes to the physician with the old story that he has tried so many glasses and has failed to be suited, but all the opticians sold them to him simply because they made him see better at the time ; so the disease has progressed until the oculist can only hope to preserve what vision remains by an operation. Can any one claim that such cases should apply to an optician? Yet only the past week I have received a wonderful pamphlet from an "opticist" (whatever that may mean), who claims to be fully capable of understanding all the laws of refraction, and who presents some surprising testimonials, yet he does not claim to know anything about the diseases of the eye, its motility or want of balance, or the conditions of the eyes that are shown by the failure of vision or an inability to use the eyes, and all this may be only indications that will eventually lead to complete blindness. Now I do not believe that we shall ever benefit ourselves by trying to control the trade of the opticians, nor by the "blowing of our own horns" as to our eminent fitness for the prescribing of glasses, but the subject must come within the domain of the practice of medicine, and hence is capable of some adjustment by suitable and just laws. The practice of medicine at the present day is too great for any one person to make himself fully familiar with all the conditions of the human system, and the investigation of the medical profession has so rapidly progressed in all branches that the advanced physician must, of necessity, devote his study to some branch or specialty, and standing almost alone. Among the many intricate problems it presents is that of ophthalmology. Hence when we claim the right to advance laws for the regulation of the practice of medicine, of which ophthalmology is a distinct branch, including the correction of all errors of refraction, we will find many physicians ready to take up the study of the diseases of the eye and its refraction, while on the other hand the optician can at no time be qualified to examine and prescribe for all cases. His work must be limited, until he has become a doctor of medicine.

Now we will never convince the general practitioner by any missionary labors, amongst them to refrain from sending his patients to the optician for glasses, as the majority seem to care very little about it. Until we can frame some just laws to meet the requirements, and only then may we expect our colleges to insist upon the importance of the refraction and the visual power in reference to the pathological condition of the eye, and also as the cause of the various reflex phenomena that are familiar to all advanced oculists. Ophthalmology has made such rapid strides in advancement during the last few years that to-day we can, with our objective

methods, correct the refraction of nearly all our cases without the aid of any subjective methods, and in the ranks of the oculists we now find the "specialist in a specialty," or in other words, some physicians seem to be more particularly fitted for one branch of the subject and others for another branch, but all are fully competent to treat all cases, from that of the most simple refraction to that of the most advanced pathological condition.

Now does not all this seem to present two distinct fields? In one we have the physician, fully prepared for his work by special study and practical experience in our hospitals, devoted to this work in our post-graduate schools, and who should not try to fit glasses to fit the frames, while on the other side, the optician, who shall prepare himself by practical work in the shops for making the glasses, by combining them in a scientific manner, as prescribed by the physician, and lastly by supplying them to all persons in the cases of presbyopia, "pur et simple," in which the distant vision is found normal. May we not also suggest and I think it has proved that the optician who will confine his business within these limits and then demand and secure the confidence of the oculists, whereby he shall obtain all his prescription trade, will eventually establish a reputation which will not require the indescriminate selling of glasses to every applicant. The limitations that I have suggested are, in a certain measure, carried out at the present time by some of our best opticians and by which they enjoy the confidence of the best ophthalmologists of this city. VALK.

SPECTACLED COWS AND SHOD GEESE.—In Bohemia, when geese are to be driven long distances to market, they are shod for the journey. The method of shoeing is as simple as it is effective. The geese are made to walk repeatedly over patches of tar mixed with sand. This forms a hard crust on their feet, which enables them to travel great distances without becoming sore-footed.

Even more useful than shoes for geese are the spectacles worn by the cows that feed on the Russian steppes. Forty thousand spectacled cattle so says the *Family Herald*, are now to be found in that region, where the snow lies white for six months in the year. The cattle pick up a living from the tufts of grass which crop above the snow. The sun shines so dazzlingly upon the white surface that many of the animals formerly suffered from snow-blindness. Then it occurred to some humane person to manufacture smoke-colored spectacles for the cattle. He tried the experiment, and it was successful. The animals are saved much suffering.

CORRESPONDENCE.

CREDIT WHERE IT IS DUE.

DENVER, COL., DEC. 7, 1899.

OPHTHALMIC RECORD:

My attention has just been called to the fact that my name has been appended to an article on "Diseases of the Lens" in Sajous' Annual and Analytical Cyclopædia of Practical Medicine. The article in question, which is an admirable one, was written, as I am informed, by Dr. Frank W. Marlow, of Syracuse. I ask assistance in having the credit for it bestowed where it is due. EDWARD JACKSON.

ADDITIONAL CASES OF METHYL ALCOHOL AMAUROSIS.

DEPARTMENT OF THE INTERIOR.
BUREAU OF PENSIONS.

WASHINGTON, D. C., November 18, 1899.

DR. H. GIFFORD, OMAHA, NEB.

Sir: I have the honor to acknowledge the receipt of the reprint from THE OPHTHALMIC RECORD of your article on "Blindness from Drinking Methyl Alcohol" and to thank you for your courtesy.

Several cases of poisoning from drinking methyl alcohol have come to the notice of this bureau, and as they may be of interest to you from a scientific standpoint, I take pleasure in reporting the following:

Mr. ——, during the night of October 4, 1898, drank from 2 to 5 teaspoonfuls of methyl alcohol. Vision was much impaired on the following morning and became gradually less until October 10, when he consulted an oculist. An examination showed no fundal changes. Vision, =0. Under treatment with strychnine and iodide of potassium, vision improved slightly up to October 26, 1898, and then gradually faded away as it had come. The present condition is complete optic nerve atrophy.

Three men in U. S. Navy, on July 4, 1898, drank a mixture of methyl alcohol and benzine (quantity not stated), and were received on ambulance ship July 5, 1898. One man was totally unconscious and died

within a few hours; another was perfectly conscious and suffered from gastro-enteritis only; while the third was semi-conscious; pupils widely dilated at first and remained so. On July 8 he regained consciousness, when it was discovered that he was totally blind. An examination by an oculist showed atrophy of both optic nerves. Under treatment with strychnine and iodide of potassium a slight improvement of vision was noted August 2. Subsequent reports do not record acuity of vision until October 11, 1898, when total blindness was shown.

Very respectfully,

J. F. Raub,

Medical Referee.

The Operative Treatment of Myopia—Rogman.—Rogman reports twenty-one cases of removal of the crystalline lens in high degrees of myopia. In the performance of the operation the author makes a preliminary discission, exercising great care not to wound the hyaloid membrane of the vitreous, and to avoid the escape of any of the aqueous humor. The lens is removed several weeks later by the suction operation of Teale. The author claims that his results are most excellent, only one eye being lost as a result of the detachment of the retina eight months after the operation. The difference in refraction of the eye produced by the operation ranged between 16 to 26 dioptres. With but one exception the acuity of vision without correcting lenses was better after the operation than it was before the operation with glasses, the degree of vision with glasses after the operation ranging from 5/10 to 5/30.—*Annals D'Oculistique.*

Colloidal Silver (Collargolum) in Gonorrheal Ophthalmia.—Schlossmann (*Therapeutische Monatshefte*, May, 1899), from an extensive experience with colloidal silver as a local application in gonorrheal ophthalmia, concludes that it is the best remedy at our disposal in the treatment of this obstinate affection. He recommends a 1 per cent to 2 per cent albuminous solution, to be applied to the conjunctiva by means of a camel's-hair brush. The instillations, he states, are entirely painless. Improvement usually began with the first application, and in some instances the children were discharged cured after four or five days. (Collargolum is the name given to an allotropic form of silver, which is said to be nonpoisonous, and which is permanently soluble in water and albuminous fluids. It has been used somewhat extensively during the past year in the form of an ointment (unguentum Credé) as an inunction in various septic and inflammatory affections.)

REVIEWS.

NOTES ON A RARE EPITHELIAL (HORNY) GROWTH ON THE UPPER EYELID OF A FEMALE.

BY DR. VIEUSSE.

(Translated from the *Recueil d'Ophtalmologie*, 1899.)

I noticed, last January, an epithelial growth of exceptional character on the outer surface of the upper eyelid of a young woman. The patient, aged 27, consulted me on the 27th of that month, and begged to be relieved of this tumor, which had developed during the previous two months.

On examination I found an excrescence measuring 1½ centimeters high by 1 millimeter in breadth. It occupied the center of the upper eyelid, and projected at right angles to the surface from which it protruded; it was soft to the touch, caused neither pain nor annoyance, and was freely movable in all directions on pressure of the finger.

The patient suffered no trouble or inconvenience, but desired its removal to please her husband. This was easily done by slight traction on the tumor, and snipping the fold of skin with a scissors. A few drops of blood only were lost, and the patient departed. When seen two months after she showed no sign of a return of the growth.

The examination of the neoplasm showed the following characteristics: It is soft throughout, its external surfaces a grayish white, resembling the cuticle of the eyelid to which it had grown. Sections made for the microscope showed that the entire neoplasm was surrounded by an outer covering formed of connective tissue, the fibers of which did not extend completely around the tumor, but interlaced with other fibers at intervals, so that this external layer seemed formed of an interwoven network. Inside this external investment were four lobes of different dimensions; one large one forming, superficially, more than one-half the tumor; another about one-third the size; one about one-half the size of the latter, and the fourth twice as small as the third lobe.

These lobes are completely separated one from the other by fibrous tissue. On examination their structure is found to vary, but distinct points of resemblance are perceived in their gradual evolution.

The larger lobe we find to be formed of concentric lamina completely surrounding the lobule. Approaching the center these layers gradually lose this form of arrangement, and further on the original structure is lost, the layers disintegrating from the periphery to the center, and gradually show signs of degeneration and decided loss of all structural formation.

The next lobe proves, on examination, to be of similar conformation, the layers undergoing degeneration as in the former, but the center of the lobe containing a yellowish substance.

The other lobes are quite similar in structure, with this difference that the degeneration of the tissues about the center is less advanced. The different lamina forming each lobe seem to have no definite structure.

It would have been interesting to note the gradual development of this epithelial growth, and how the different elements of the skin took part in its production. To this end we had intended making longitudinal sections of the neoplasm on a level with its point of adherence to the skin, but the portion preserved for this purpose was unfortunately lost. However, the above description will permit one to form an opinion of the nature of this growth. It is quite evident that it bears no resemblance to the papillomata, and that it can only be considered of a horny or epithelial character. In favor of this hypothesis we have its lobular form, consisting as it does of several lobes separated by intermediary tissue, breaking down about their center as we see in certain epitheliomata, and especially the pearly form. On the other hand there are points of dissimilarity. There is nothing of a decidedly epithelial character in this new growth. The different layers of each lobule are composed of lamellated tissue, forming a complete covering, thus in no way resembling an epithelioma.

Comparing it to a horny growth, these differences strike one, viz., the former are hard and noncompressible, while the neoplasm in question is soft and easily yields to pressure.

True, horny growths are formed of epithelial cells, which flatten out as they approach the center, and constitute but a single lobe with a central cavity. In our specimen we have just the contrary, that is, several lobes formed not by epithelial tissue breaking down as it approaches the center, but of laminæ forming a continuous covering for each lobe, these

laminæ gradually degenerating from the periphery to the center, leaving an empty space as in the larger lobe, while the others contain broken-down tissue.

Having thus shown the points of difference and similarity between our neoplasm and epitheliomata and horny growths, we must seek to place it among one or the other of the epithelial formations. Basing our decision on careful study, we must class it among the horny growths, and in this opinion we are supported by Professor Audry, whose experience in all cuticular changes is widely recognized.

I have searched all the literature obtainable concerning these palpebral horns, and can find but three cases, all reported in the *Traité Complet d'Ophtalmologie* of de Wecker and Landolt.

M. de Wecker relates a case in which the horn developed in a man aged 40 years on his left lower eyelid, was fan-shaped, and measured fifteen millimeters in length by six at the base. It was removed by his assistant, M. Masselon. A drawing of it by M. Poucet is of little assistance in enabling us to determine the anatomical constitution of the neoplasm.

The case of Mr. Shaw was that of an Irishman, aged 56 years, with a horny excrescence, which had been growing for six years, measuring one inch and a half in length and the same in circumference at the point of adherence. A similar horn, which had occasioned a slight ectropion and lachrymation disappeared spontaneously, but was soon followed by a new excrescence which was removed by a circular incision.

Soelberg-Wells' case was of a man aged 76 years, the horn growing on the right lower eyelid, measuring one inch in length and about the same at the base, ten months having elapsed since its original appearance. Bowman removed it by a V-shaped incision, which was secured by a figure of eight suture.

In studying the evolution of these new growths de Wecker has decided that they are originally a form of wart susceptible of easy and rapid growth. We think, however, that this opinion needs to be more satisfactorily supported, these growths having the faculty of spontaneously disappearing. If, on removal, the pedicle be allowed to remain, they grow again rapidly, so that on operation it is advisable to pass the knife well around the excrescence at its base, completely removing its point of origin (de Wecker and Landolt, *Traité Complet d'Ophtalmologie*, Vol. I, p. 84).

Thus we see that these horny growths may give rise to inconvenience, as when on the lower lid they cause ectropion by reason of their weight,

resulting in lachrymal obstruction and its troublesome consequences; though such a result is hardly likely to supervene if the upper lid be involved, the reverse being likely to occur owing to the force of gravity.

In the case of Soelberg-Wells the horn dropped away accidentally, but did not fail to reappear, as has been observed in such developments in other parts of the body, imitating the action of nature in animals whose horns are shed periodically and at a fixed period only to grow again.

From these facts we learn that to free a person from one of these horny growths we must not rest satisfied with simply removing the tumor, but we must as well destroy the matrix, and thus prevent a return of the trouble. This I was careful to do in operating on my patient, completely removing the tissue in which the excrescence had developed.

C. A. W.

LANDOLT'S NEW OPTOTYPES.

These optotypes are based on the principle universally adopted, namely, the determination of the smallest angle under which the eye distinguishes two points as being separated. The separation of the two points is represented by a solution in the continuity of black circles placed upon a white background. In order to make the tests conform as much as possible to those generally in use, Landolt has given to the circles the same dimensions as the letters of Snellen. His chart contains sixteen circles of different sizes, and is to be placed by preference at a distance of five metres from the eye to be examined. The numbers printed beneath the circles indicate the degree of the acuity of vision of the eye which at that distance just distinguishes the solution of continuity in the circle. In this manner No. 1 corresponds to the unit of acuity, or the normal, because the lacuna in the circle appears at five metres under an angle of one minute. For the distance of five metres he has chosen the following series of degrees of visual acuity:

0.1, 0.15, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.25, 1.50, 1.75 and 2.

These intervals, according to the necessities of practical usage, are smaller between the higher numbers and greater between the lower numbers. It is true that contrary to the series in common use, he has placed No. 0.15 between 0.1 and 0.2, the latter interval being a little too great.

In order to use Landolt's types at a distance other than five metres, the degree of acuity of vision which has been found is expressed according to the following well-known formula:

$V=\frac{D'}{D}$, in which D' represents the distance at which the examination

0,1

0.3

0,4

0,8

0,9

1

O. DOIN, Editeur.

OPTOTYPES LANDOLT

0,15

0,2

0,5

0,6

0,7

1,25

1,50

1,75

2

Imp. Monroco, Paris.

has been made, and D the distance at which the nominal eye distinguishes the figure in question. This distance, D, for No.

0.1 = 50 mètres	0.8 = 6m52
0.15 = 33m33	0.9 = 5m55
0.2 = 25m	1. = 5m
0.3 = 16m67	1.25 = 4m
0.4 = 12m5	1.50 = 3m33
0.5 = 10m	1.75 = 2m86
0.6 = 8m33	2. = 2m5
0.7 = 7m14	

When the visual acuity has depreciated below one-tenth, the chart may be carried toward the person examined until he just recognizes the space in the largest circle. The corresponding acuity being equal to 0.1 for the distance of five metres will be :

0.09 for 4m5	0.04 for 2m
0.08 " 4m	0.03 " 1m5
0.07 " 3m5	0.02 " 1m
0.06 " 3m	0.01 " 0m50
0.05 " 2m5	

That is to say, the visual acuity is equal to twice as many hundredths of the normal as the distance equals metres. For determining the lower degrees of sharpness of vision this method is just as simple as that one which consists in counting fingers, and in addition, is more precise.

There is no difficulty in understanding the advantages which these test types have over letters and numbers. Letters and numbers can serve only for those who know them and who, moreover, are far from being equally facile in their powers of recognition. Landolt's circles are the same for everybody. They furnish, therefore, tests which are really international. Letters vary much in their visibility, hence, in order accurately to determine each degree of acuity of vision a large number of letters must be provided, which the patient can learn by heart and render the examination negative. In Landolt's types one sign alone suffices for each degree. It is only necessary to vary the position of the chart to change in one movement all of the tests. Again, they may be exhibited in a looking glass without the necessity of bringing them into an inverted position, as is the case with letters.

Other points of excellence which Dr. Landolt claims for his tests are: That each chart contains a greater number of tests for determining the acuity of vision than the charts generally in use; that the square form which

he has given to the chart is better than the shape ordinarily employed, as it permits more perfect equalization of the illumination and prevents the person who is being examined from finding a point of comparison by means of which he is enabled to divine the position of the opening in the circle without really seeing it. The recognition of letters is a process of the most complex character, in which the sensation of light, the movement of the eyes, and above all, the intellect, have a part almost as great as the simple perception of form. Landolt's types, on the other hand, present to everybody the same simple problem and succeed more accurately than the letters, he thinks, in fulfilling the function for which they are destined.

Finally, Dr. Landolt believes that letters, in so far as their form and visibility are concerned, are far from conforming to the principle on which the determination of visual acuity is based. The power of distinguishing the space in his circles permits, on the contrary, the examination of the visual angle, that is the *minimum separabile*. G. E. DE S.

THE STUDY OF DISEASES OF THE EYE IN ANTIQUITY.—It is stated in the *British Medical Journal* that the second edition of Graefe-Saemisch's treatise on ophthalmology contains a very interesting essay on the study of eye diseases in antiquity by Professor Hirschberg. The oldest document bearing on the subject is a papyrus discovered at Thebes in 1872 by Ebers, who assigned it to a date about 1500 B. C., 1000 years before Hippocrates. From it we learn that there were at that time three kinds of medical practitioners in Egypt, namely, physicians, surgeons, and "thaumaturgists," whose memory we shall probably not calumniate by regarding them as the prototypes of our own faith-healers and miscellaneous quacks. The papyrus describes the three most important symptoms of eye diseases as excessive secretion, redness, and swelling. Among the remedies advised are myrrh, frankincense, acetate of lead, onion, verdigris, the dung of crocodiles and gazelles, brain of tortoise mixed with honey, woman's milk, but especially antimony. All Egyptians, as is shown by the boxes found with mummies, used ointments to blacken their eyebrows and eyelashes. Virchow, who analyzed the contents of one of these boxes, found that the collyrium consisted not of antimony, but of sulfate of lead. This circumstance appears to show either that the relatives of the deceased thought a cheap article good enough for the "corpse," that the undertaker swindled them, or that some one else got a secret commission on the little job.—*Philadelphia Medical Journal*, August 12, 1899.

REPORTS OF SOCIETIES.

SECTION ON OPHTHALMOLOGY.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting October 17, 1899. Dr. George C. Harlan, Chairman, in the chair.

Dr. S. D. Risley reported a case of *glaucoma* in a patient aged 77, coming on three years *after a successful simple extraction of cataract.* The immediate result after extraction was V.= $\frac{6}{9}$, which fell in six months to $\frac{6}{40}$ in consequence of thickening and opacity of the capsule. After a secondary operation V. rose to $\frac{6}{5}$, and remained there with a perfectly healthy eye for two and a half years. The patient then suffered a severe attack of influenza, during which the eye was red, probably from a mild iritis. Six weeks later she began to suffer transient attacks of dim vision, which became more and more frequent, culminating on the evening of April 23, 1899, in a pronounced attack of inflammatory glaucoma, with iris bombé, the projecting iris blocking the angle of the anterior chamber completely throughout the upper and inner two-fifths of the chamber. The cornea was steamy, the ball tender, tension + 2, and V. reduced to $\frac{1}{5}$. No satisfactory view of the fundus was obtainable. The field of vision was so narrow that the patient had difficulty in finding her way about. She was placed in bed, received a purge and salicylate of sodium, with the free use of eserin and gentle massage locally. This resulted in the rapid subsidence of all the symptoms, so that iridectomy, which had been advised, was deferred. In a few days V. had risen to $\frac{6}{12}$. The tension was normal, the iris bombé had disappeared, the mediæ were transparent, and the field extended to nearly normal dimensions. The eye remained comfortable until the latter part of the following August, when the entire group of symptoms recurred. Iridectomy was then performed, resulting in complete relief and the restoration of vision to $\frac{6}{9}$. In discussing the cause of the attack Dr. Risley stated that he believed it to be due to the annular attachment of the iris to the very dense capsule during the attack of iritis accompanying the influenza in February. The

fluids were thus excluded from the anterior chamber and accumulated behind the iris, causing the iris bombé which still further interfered with the excretion of the intraocular fluids.

Discussion.—Dr. de Schweinitz had seen three cases. In the first case glaucoma appeared in fifteen days after extraction of a complicated cataract. Under treatment with eserin and large doses of chloral, vision recovered to $\frac{20}{30}$, and has been retained until the present—six years. In the second case glaucoma appeared three years after perfectly successful extraction, and was attributed to prolonged reading on a very hot day. Operation was declined. The first attack was followed by others; some months later the patient had steamy cornea, pulsation of the retinal artery, cupping of the disk, and contraction of the field. Paracentesis was performed without material benefit. In the third case glaucoma appeared three weeks after extraction. Instillations of eserin and freeing of the periphery of the iris from the incarceration in the incision were followed by recovery. In all the cases the extraction was made by the combined method.

Dr. G. E. de Schweinitz described a case of *circinate retinitis*, the lesions having occurred in left eye of a woman aged 77, who in other respects was healthy. This disease manifested itself in the form of a large, somewhat wreath-shaped, slightly raised, yellowish-white deposit, which surrounded the macular region and terminated some distance beyond it. In the right eye a similar exudate occupied the macular area, but did not surround it, that is, the lesion was not circinate in character. The clinical evidences were that hemorrhages had been the antecedent condition.

Discussion.—Dr. Randall said that he had sketched a most typical case of the sort which had come under his care. It had remained unpublished for lack of the later history, as the patient had dropped out of sight. She presented a large crescentic patch beyond the macula with smaller disseminated splotches extending above and below toward the disk in the right eye, the left being unaffected. There was no albuminuria, although some of the macular lesions looked suspicious; but the patient, a woman of 65, seemed frail and needed further study.

Dr. William M. Sweet exhibited a patient suffering from *optic atrophy due to intestinal hemorrhage.* The blindness occurred six days after profuse hemorrhage from the bowels, the vision of the left eye being entirely lost, while in the right eye a small area to the temporal side of the fixing point was preserved. Ophthalmoscopic examination made three days after the hemorrhage showed moderate contraction of the

retinal arteries, paleness of the optic disks with margins slightly hazy, and slight œdema of the retina, especially toward the foveal region, but no retinal hemorrhages. From the lower border of the right optic disk a ciliary artery passed toward the fovea, the preservation of some vision in this eye being probably due to the blood supply from this source.

Of the theories advanced to account for cases of post-hemorrhagic blindness, that of Westhoff and Ziegler, who believe that the ischæmia produces a fatty degeneration of the nerve fibers, would seem to explain the symptoms in many of the cases. Theobold considers that the degeneration follows a thrombosis in each central artery of the retina, the enfeebled blood current in the retinal artery being further obstructed by the intraocular tension. In this case, however, there was not the marked contraction of the retinal arteries that might be expected to follow a plugging of the main arterial supply of the retina. Ziegler's autopsy of a case, twenty days after the hemorrhage which led to the loss of vision, showed fatty degeneration of the optic nerves and their intraocular expansions, a condition which Ward Holden has shown, through experimental researches, to follow degenerative changes of the retinal ganglion cells.

Discussion.—Dr. de Schweinitz referred to the work of Ward Holden in investigating pathologic changes in this and analogous cases. He believes that the blindness was due to œdema of the retina, followed by early changes in the ganglion cells. These changes led to degeneration of the cells and fibers extending upward into the optic nerve as far as the chiasm. The symptoms in Dr. Sweet's case seem to be well explained by this theory.

Dr. Howard F. Hansell reported the results of the examination of fifty-two individuals, comprising emmetropes, hyperopes, and myopes, in the determination of the *Physiologic Variations in the Size of Mariotte's Blind Spot.* In the distance from the fixation point to the approximate center of the blind spot as projected 33 cm. there were considerable variations. In emmetropia the longest distance was 9.1 cm. and the shortest 7; in hyperopia the longest was 9.5 cm. and the shortest 7; in myopia the longest was 13.5 and the shortest 6.5 cm. In comparing the distance in the three varieties of refraction, the greatest distance and the shortest distance were found in myopia. The center of the blind spot was, with few exceptions, below the horizontal line running through the point of fixation. In hyperopia the greatest distance was 25 mm. and the shortest 2 mm.; in myopia, 19 mm. and 5 mm.; in emmetropia, 22 mm. and 2 mm. As a rule, the shape of the blind spot was oval and

irregular in outline, and was independent of the refraction. The size of the blind spot was decidedly greater in myopia than in other states of refraction. Very few pairs of eyes showed equal measurement in either the distance of the blind spot from the fixation point or in its position or size, and variations as great as exist in the eyes of different individuals were found in the eyes of the same individual. Dr. Hansell concludes that the blind spot has a greater bearing in the measurement of the field of vision than has been accorded to it, and might, in the absence of a knowledge of its size, be mistaken for the scotoma of disease. The discovery that a portion of the field measuring 5×4 cm. of irregular outline, between the 10° and 20° mark on the perimeter, and in some cases including both, is blind, might lead to confusing conclusions as to the real character of the field.

Discussion.—Dr. Risley noted that the distance of the blind spot from the fixation point was greatest in myopia, and was led to believe that this was due to the stretching of the coats at the posterior pole. Dr. Randall said that the investigation promised value in respect to some paradoxical relations which he believed had been observed by many beside himself. While in the main the eye-ground picture corresponded with the theoretical amplification of the refracting media, giving a small disk in H. and an exaggeratedly large nerve-head in M., it was observed that the macula seemed further away, actually as well as proportionately, in H. and closer in M. It may be distant quite three diameters of the small disk from the lower outer nerve-margin in H.$= 4-6$; but little more than one diameter from the big myopic disk—a difference which cannot be merely a visual illusion, since the distance ought to be increased with the other details by the greater magnification of the media, as well as by any pathologic stretching.

HOWARD F. HANSELL,
Clerk of Section.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

The first meeting of the session was held on Oct. 19, the newly elected president, Mr. G. Anderson Critchett, being in the chair.

Mr. Critchett proceeded to deal with the *evolution of cataract extraction* since Daviel first attempted it in 1745. Prior to that time couching, or discission, were the only recognized operations. His operation was a simple extraction, and although it gained numerous adherents there were many who relied on the more primitive methods, and even as late as 1838

it was stated by Gutherie "there are reasons which will ever prevent it being practiced by the great body of the profession." The statistics, however, of cataract extractions were, notwithstanding, remarkably good.

He then proceeded to describe in detail the old flap operation. When done with skill and success it gave an excellent result, but so often a large prolapse of iris occurred, and in these preantiseptic days primary suppurations were numerous.

The dawn of a new era was foreshadowed at Moorfields when it was found that the results of one of the surgeons less skillful than his fellows, were exceptionally good. This gentleman usually accidentally did an iridectomy.

The first definite change was made by Prof. Schuft, whose efforts at reform were somewhat radical. He made a slit-like opening at the corneo-scleral junction, did a large iridectomy, and then inserted a spoon with which to remove the lens, but this often caused loss of much vitreous

Then in 1864 the president's late father read a paper at the Congress at Heidelberg on the excellent results achieved by himself and Mr. Bowman at Moorfields with linear extraction, and this led to Von Graefe introducing the knife, still used and always associated with his name. The operation he instituted had its dangers, and without great skill and care, the operator was liable to encroach on the ciliary region, and severe cyclitis and loss of vitreous were not infrequent.

Numerous modifications have been made, and the most important are associated with the names of Pagenstecher, who removed the lens with a spoon in its capsule, as also did Macnamara and Andrew, of Shrewsbury. Lebrun, of Brussels, and Pridgen Teale made a purely corneal section, but anterior synechiæ and astigmatism were frequently produced.

Bell Taylor removed a small portion of the periphery of the iris and left the pupil intact, but the difficulties of the operation were serious drawbacks to its adoption.

Förster's artificial ripening and McKeown's irrigation of the anterior chamber must also be mentioned.

Ophthalmic surgeons are now divided into two great camps. On one side are the adherents of simple extraction, while on the other are those who are loyal to iridectomy.

In spite of recent advances finality has probably not yet been reached, but in the hope that our future may be one of scientific progress, let us retain an open mind and a well balanced judgment, keeping steadily in view our final goal, the relief of human suffering.

Mr. Doyne read some notes on *Recurrent Superficial Necrosis of the*

Cornea, and also on the subject of *Radiant Heat in the Treatment of Eye Diseases.*

Mr. Lawford read notes of five cases (four males and one female). In three of the cases the evidence of syphilis was indubitable, in the other two it was open to question.

In the first case the keratitis developed 4½ months after the primary lesion, which was situated on the lower lid of the eye, whose cornea became involved. In the second case an interval of 11 months elapsed between the primary sore on the penis and the development of the keratitis. In the other three a longer period separated the primary lesion and the corneal affection.

Mr. Lawford drew attention to certain features in these and other previously recorded cases wherein they differed from the keratitis of inherited syphilis. In the acquired form the attacks of keratitis seemed to be of shorter duration and less severity, and in most instances only one eye became affected. The prognosis also seems better, as in the majority of cases complete, or almost complete, restoration of the transparency of the cornea resulted. He considered that in three of his cases there was good reason to believe that the keratitis was a syphilitic affection. In the other two he merely noted the occurrence of an interstitial keratitis in patients who had probabably had syphilis some years previously.

Mr. Lang said he recorded one such case in the transactions of the Society seven or eight years ago. In a year the cornea cleared. He thought that the application of heat was beneficial and shortened the course of the disease.

Mr. John Griffith asked whether the cases were looked upon as being a secondary or tertiary manifestation. In reply Mr. Lawford stated that he considered them both secondary and tertiary.

The following card specimens were shown :

Mr. Sidney Stephenson.—*Congenital subluxation of the lens.*

Mr. R. E. Bickerton.—*A peculiar form of affection of the choroid.*

Mr. R. W. Doyne.—*Paralysis of the muscles of both eyes.*

Major M. T. Yarr, R.A.M.C.—*Inflammatory patch in the retina* (tubercular).

The Kansas City Ophthalmological Society, November 13th elected the following as officers: Dr. F. B. Tiffany, President; Dr. LeRoy Dibble, Vice-President; Dr. F. G. Murphy, Treasurer, and Dr. F. T. Reyling, Secretary.

Dr. Murphy read a paper on the *Injurious Effects of Books on the*

Eyes. He said that the curved lines were tiresome to the eyes, as frequently the center of the page was as much as an inch nearer the eyes than the ends of the lines. It was impossible to light the curve properly, and light reflections would unavoidably enter the eyes. He advocated having the lines run parallel with the binding, so the lines would at all parts be an equal distance from the eyes, and could also be properly lighted from the side. He also suggested that it would be a great relief to the ocular muscles if the reading columns were narrower than the pupillary distance.

Dr. Burke reported a case of *partial blindness* from papillitis in a boy seven years old.

Dr. Tiffany reported a case of complete *bilateral blindness* from embolism in a man fifty years old.

Dr. Murphy reported a case of *paralysis of the right external rectus* from injury to the sixth nerve by a fall fifteen years ago in a patient nineteen years old. He had performed a tenotomy of the right internal rectus, so that the patient might hold his head straight in his efforts to obtain binocular vision.

CHICAGO OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY.

NOVEMBER 14, 1899.

Dr. Casey A. Wood presented, through the courtesy of Dr. Patillo, two cases of *methyl alcohol amaurosis* from inhalation of the poison, in which the fundus changes were well marked. In connection with these cases, he wished to point out a very curious circumstance. Until last year, cases of amblyopia or amaurosis from the use of methylated spirits were extremely rare, the first being described in 1877. He happened to write a small monograph on "The Toxic Amblyopias" in 1892-94, and was unable to find reported more than this single case in all literature.

The experience of de Schweinitz, who wrote a still larger work on the same subject in 1895, seems to have been the same. Since that time, a dozen or more cases have been described, but all of them written the past year or two.

In all the instances hitherto given, the amblyopia or amaurosis occurred from drinking the spirits, but in these cases it occurred from absorption by the lungs, mucous membranes and skin. The patients had good vision and there is no history of syphilis nor of any condition likely to produce sudden blindness. They were employed to "shellac" the in-

terior of beer-vats in a brewery. These vats were twenty feet wide by ten feet deep, cylindrical in shape and were almost entirely inclosed. There was indeed a vent of three or four inches in diameter at the top, and a sort of man-hole partially closed by a lantern, through which the painters crept. It was subsequently shown by analysis that the shellac was not properly prepared, as it was composed of a solution containing more than 50 per cent of methyl alcohol. In addition to this the temperature in the vat was raised to about 70 degrees in order to dry the interior. These men were consequently exposed to this concentrated and hot methyl alcohol vapor for hours at a time, and it is not to be wondered, knowing as we do the poisonous qualities of wood alcohol, that they were soon affected by vertigo, nausea and general malaise. They next found upon awakening one morning that they were totally blind. Improvement in vision took place after a week or ten days, and one of them was able to get around pretty well. About two weeks after the beginning of the blindness, the visual acuity in both again sank and now amount to very little. By one patient, hand movements in one eye and fingers at about two feet are visible; by the other, fingers are seen at three feet by one eye and at eight feet by the other.

In both cases the field of vision exhibited a very decided positive scotoma, with apparently a very narrow rim of percipient retina. In one patient it was impossible to measure the field at all with the usual objects, on account of the very low vision, but by means of a faint light it was fairly well marked out. Vision now is worse than it was after the first improvement. The fundus changes in one case seem to bear out the theories of Ward Holden, who has written on this subject and examined dogs (to whom methyl alcohol was given *per orem* after anæsthesia). He believes the alterations to begin in the retina, from whence it ascends to the optic nerve that later proceeds to true atrophy. I think that this condition of things can be plainly seen in these two fundi. In one of these cases, there are certainly indications of a peri-arteritis, with macular changes and dirty, woolly disks with the edges not plainly marked.

On the other hand, as Gifford has pointed out, the clinical history plainly indicates an early optic neuritis, while the subsequent story of temporary improvement in sight, late, well-marked atrophy of the post-neuritic type makes it difficult to conclude otherwise than that the action of the poison is chiefly (probably in the first instance) upon the axial fibers of the nerve itself.

I have never seen a case in my own practice, except a very doubtful one, in which the diagnosis lay between hemorrhage into the brain and

possible methylic alcohol poisoning. Here the patient presented (after a spree) precisely the same general local symptoms (with similar fundus changes) just portrayed, but there was no convincing evidence of his having drunk liquor charged with methyl alcohol.

Discussion.—Dr. F. C. Hotz: These cases were in his clinic last week. They are especially interesting, because the methyl alcohol was introduced into the circulation through the lungs, not through the stomach. He believes they are the first observations of this kind brought to our notice. At least, among the small number on record of toxic amblyopias due to wood alcohol, there is none in which the intoxication was caused by inhaling the alcohol. A day or two after the occurrence of blindness, both patients had been put under the care of Dr. Welcker, who found marked optic neuritis in both cases; that the blindness was complete when he first saw them; then the sight returned to a certain degree, but gradually grew worse again. If Dr. Holden's views were correct, that wood alcohol primarily affects and directly destroys the retinal elements, it would be difficult to account for this temporary recovery of sight, for the perceptive elements once destroyed make the return of sight impossible. While, on the other hand, we can well understand that a violent inflammation of the connective tissue of the optic nerve may interrupt by pressure the conduction of visual perceptions so completely as to cause total blindness during the heights of inflammation, and yet vision may return when the inflammation subsides and the nerve fibers are released from the paralyzing pressure of the swollen connective tissue. But as the neuritis is always followed by more or less shrinkage of the tissues, causing atrophy of the nerve fibers, the vision gained is gradually lost again. Clinical facts, therefore, do not sustain Dr. Holden's views, but rather prove that wood alcohol exerts its injurious effects primarily upon the optic nerves.

Dr. J. Elliott Colburn saw a similar case last April. The man was cleaning some old furniture in one of our large office buildings, where they were desirous of keeping the fumes from spreading over the building. He used the alcohol quite freely, and after five or six days he noticed that his vision was beginning to fail. A day or two afterward he called at Dr. Colburn's office. He had a very low vision, and presented a picture of a very severe double neuritis, attended by considerable pain. He also complained of pain in the arm whilst using the alcohol. The appearance was that of a typical neuritis.

During the month of May, Dr. Colburn had occasion to do some cleaning of old furniture, and used wood alcohol. He experienced pains

in his hand and arm. He thought that it might be due to the unusual work, but after much more difficult labor, he did not experience the pain ; furthermore, upon using the alcohol again, he experienced the same discomfort.

Dr. Henry Gradle thinks that these two cases of methyl alcohol poisoning plainly show that the trouble is a post-neuritic atrophy. On rather cursory examination the retina seems to present a lessened transparency in its central area.

Dr. H. Gradle opened a discussion on the *relationship of ocular and orbital diseases to affections of the nose and its sinuses.* His experience led him to criticise some of the communications on this subject as too generalizing. He maintained, however, that although the nasal etiology is not as common as some maintain, there are certain definite instances in which various orbital and ocular troubles occur as complications or extensions of nasal diseases, which point was illustrated by a number of clinical records.

Discussion.—Dr. Thomas Faith has in a number of instances noticed the appearance of a temporary ciliary injection, with considerable pain in the eye and tenderness in the ciliary region, occasionally accompanied by a hyperemia of the iris, and in one case amounting to mild iritis, following deep linear cauterization of the inferior turbinal body. The pain, as the patients expressed it, was like a severe toothache extending into the eye. The symptoms passed off in from twenty-four to forty-eight hours without necessitating any treatment except in the case of iritis, which subsided in about eight or ten days under the influence of atropin.

In another case which he chanced to see in the practice of a friend, a case of one-sided atrophic rhinitis following complete removal of the middle and inferior turbinal bodies, the cornea on the same side became opaque and degenerated in spite of anything that could be done. The absence of any other traceable cause, and the appearance of the eye symptoms at the same time as the beginning atrophy in the nose, seem to point to the nasal trouble as the cause.

He has been led to believe that in all probability the changes which take place are trophic in character. The mucous membrane of the nose is supplied by branches of the fifth pair of cranial nerves, as is the cornea and anterior part of the eye in general, and the changes which occur in the eye after division of the fifth are marked and characteristic of trophic changes, as well as loss of sensibility to cornea, iris, and ciliary region.

In animals, where division of the fifth nerve has been made for purpose of physiological experiment, changes occurred in the cornea even when it was protected by closing the eye, or oiled with an ointment.

The cornea became completely opaque, followed by a gradual degeneration, which sometimes extended to the interior of the eye.

He thinks the changes in these cases have reference to the nerve distribution; the changes in the nose affecting the nerves in that organ, from there extending to and affecting the branches which supply the eye, and particularly in the case last mentioned, amounting to a pure trophoneurosis.

Presentation of cases by Dr. William H. Wilder. The first case was one which Dr. Wilder presented to the society last spring. A young man 17 years of age came to the infirmary, stating that about two or three weeks prior to his admission the sight of the right eye began failing rapidly. Family history is negative. He has never had any venereal disease. Vision of the left eye was normal, while that of the right eye was reduced to $\frac{1}{2}\frac{0}{0}$. A little to the lower and the outer side of the optic disk is an elevation, evidently choroid, which at the time of his entrance showed distinct pigmentation. This is now gradually disappearing, although the size of the little mass is not decreasing. There is a little vessel, the inferior temporal branch, which passes directly over this elevation, so that we undoubtedly have here some sort of a tumor in the choroid. The size of this little mass is approximately one millimeter. Just below this little mass is a slight hemorrhage. About two weeks ago there were several hemorrhages below the optic disk in the choroid. Within the last two days a few small punctate spots have appeared around the macular region. Whether or not this is a sarcomatous growth remains to be seen. He has been taking potassium iodide, although there is no evidence of specific disease. His field is interesting. There is a distinct scotoma, which is really an enlargement of the physiological blind spot, and this has varied somewhat. It is not so large as it was when he entered the infirmary. The size of the scotoma seems to be diminishing below. Some of the hemorrhages first observed have been absorbed.

Dr. Wilder has never been able to observe the growth of a sarcoma of the choroid from the beginning, and is somewhat skeptical of his first idea of its being a sarcoma, as there seems to be an apparent absorption of the growth; at least the pigment has disappeared.

The next case is a young man 23 years old, who came to the infirmary a few days ago. He has always been perfectly healthy. Vision of the right eye is 21/160, that of the left 22/100. Everything about the eyes and fundus seems to be normal, with the exception of scattered white disks around the region of the macula lutea, distinctly in the choroid. The spots vary in size, the largest being about the size of the head of a

pin, and they are very discrete, more numerous in the right eye than in the left. It reminds one very much of pictures of Tay's choroiditis, an extremely uncommon occurrence. One might expect a tuberculosis, but these spots do not seem as large as those present in tuberculosis, and, furthermore, there is no tubercular history in this case. His parents, brothers and sisters are all living and well.

The third case was presented here last spring. He is an ophthalmological and pathological museum. He has a detached retina, a dacryo-cystitis, and a cataract (this latter is evidently of traumatic origin), and the whole lens is visible. There is no iris to be seen. The lens was not dislocated into the anterior chamber, which was apparently of normal depth. There was an apparent aniridia. Dr. Wilder endeavored to remove the lens by operation, but the vitreous was so fluid that there was a great escape of it, and the patient subsequently developed such a severe pain that it was necessary to enucleate the eye. At some future time the microscopical specimens of this case will be presented to the society.

The Optical Science of a President of an Optical College.—To Dr. David W. Stevenson, of Richmond, Ind., the profession is greatly indebted for a discovery of no inconsiderable value. He has discovered a rare book, entitled "Optical Truths," by Chas. McCormick, M.D., president of McCormick Optical College, 84 Adams Street, Chicago. This book, Dr. Stevenson says, was reviewed favorably by an "optical" journal, and was recommended to him by wholesale opticians "as the coming book on optics." From the selections given by Dr. Stevenson in his article ("Sample Misstatements in a Book of Opticians," *American Journal of Ophthalmology*, May, 1899), we have a valuable addition to the growing list of additions or contributions to science as she is taught by ignoramuses. When spurred by avarice, the impertinence of ignorance becomes unconsciously humorous, and our professional life is so serious that we must be highly grateful for anything contributing to the gayety of nations, especially if it illustrates the truth that the quack opticians who wish to supplant medical men in the field of ophthalmology should not begin by an ignorance of optics and physiology so great as to advertise their incapacity to boobies and first-form schoolboys. We hope the first edition of "Doctor" McCormick's unique book may not be exhausted before we secure a copy.—*Philadelphia Medical Journal.*

NEWS ITEMS.

Personals and items of interest should be sent to Dr. Frank Allport, 92 State St., Chicago.

Yale College boasts a blind law student.

Dr. Albert B. Hale, of Chicago, has removed his residence to 6626 Monroe Avenue. His office remains as heretofore, at 103 State Street.

Dr. William L. Noble was married November 1st, to Miss Marion Holden, of Chicago.

Dr. Filippo Nattini has been appointed privat-docent of ophthalmology at Genoa.

Dr. Joseph Rohmer has been made professor of clinical ophthalmology at Nancy.

Dr. S. D. Risley, of Philadelphia, has removed his offices from 1722 Walnut Street to 1824 Chestnut Street.

Dr. J. Collins Warren, president of the board of managers of the Massachusetts Eye and Ear Infirmary, Boston, has resigned.

The number of children in the New York Institution for the Blind at the end of the fiscal year just closed was 169, a decrease from the previous year.

The trustees of the New York Eye and Ear Infirmary have decided to erect a pavilion for contagious eye diseases on property adjoining the infirmary.

Dr. James Moores Ball was elected president of the St. Louis Academy of Medical and Surgical Sciences, which held its annual meeting November 7, 1899.

There is a man in New York who fell in love and got married while he was blind. After twenty-six years his eyes were operated on, and he was able to see his wife for the first time. The wonderful part of it is that he showed no disappointment.

It has been computed that one person in every eight hundred is blind to the X-rays—that is to say, when looking through the fluoroscope they are utterly unable to observe the bones of the body, coins, or any other object which is clearly distinguishable by the ordinary observer.

An International Congress for the Amelioration of the Condition of the Blind is to be held in Paris, August 1 to 5, 1900. For particulars address the secretary-general, Maurice de Sizeranae, Avenue de Breteuil, 31, Paris.

G. P. Putnam's Sons announce that they did not find it practicable to issue No. 5 in the present volume of the Archives of Otology, in October. They have therefore planned to make the December issue a double number, and subscribers can depend upon this number reaching them early in that month.

The improvements at the Baltimore Presbyterian Eye, Ear, and Throat Hospital have been completed. A two-story dispensary has been erected in the rear. The old dispensary has been turned into wards, which have been furnished by Mrs. Joseph Rieman, in memory of her late husband.

Announcement is made that the *Journal of Eye, Ear, and Throat Diseases*, published by the medical staff of the Baltimore Presbyterian Eye, Ear, and Throat Charity Hospital, will hereafter appear as a bi-monthly instead of quarterly as heretofore.

Jocos recommends for the quick maturation of a cataractous lens the introduction of a hypodermic syringe into the anterior chamber. Some aqueous fluid is sucked up into the syringe, which is then forced into the lens. He claims that the lens may be completely removed after the fifth day.

John G. Whittier's Color-Blindness.—The Boston *Transcript* prints a letter from Robert L. Rantoul to the Whittier Club, in which he said: "Mr. Whittier told me the story of discovering his color-blindness,

when his mother had taken him out to pick wild strawberries, and he could find none. He told me of the embarrassment this limitation had caused him through life lest in describing flowers so freely as he had done in his poems he might sometimes go wrong as to the coloring."

The evils of overwork have claimed, in the case of school children, the attention of the Swiss officials. In the Canton of Luzerne the provision is that no lessons shall be studied at home, and that only moderate tasks be required in the secondary schools. Ten minutes' recesses every half-hour are called for, and a week's vacation every six or seven weeks. Attendance at school is not to begin before the age of seven years.

Mr. Anderson Critchett, the new president of the Ophthalmological Society of London, gave an address at the opening meeting of the session, in which he paid a tribute to his predecessors. He also expressed the regret he felt that his honored father had not lived to occupy the chair. That feeling is natural to the members of the society, but George Critchett's fame is world-wide, and to those who knew him his memory is dear as a man, while as one of the great pioneers of ophthalmology his name is deeply engraved on the history of the specialty. That specialty is well to the fore now—Anderson Critchett president of one society, and his colleague, Mr. Juler, of another, the Harveian.

Dr. Casey Wood, in charge of the department of Italian ophthalmic literature in the *Annals of Ophthalmology*, has arranged with Professor Guaita and Dr. Bardelli, of the *Annali di Ottalmologia*, for the simultaneous publication of such articles as may be agreed upon in both these journals. The modern school of ophthalmology in Italy is a very active and influential one, and we are sure the readers of the *Annals* will greatly benefit by this arrangement. We draw attention to the first of these articles in the present number, entitled "The Use of Cocain in Measuring the Amount of Heterophoria."—*Annals of Ophthalmology*.

The last volume of Norris & Oliver's "System of Diseases of the Eye" is out, and treats of the "Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology," etc. The writers of this volume are Landolt, Nuel, Norris, Oliver, Haab, Swanzy, Lawford, Story, Fernandez, Parinaud, Hutchinson, Standish, de Schweinitz, Salzmann, Baudry, and Gayet.

This volume completes the most notable text-book on diseases of the

eye in the English language, and no ophthalmologist who even pretends to keep up with the times can afford to be without this magnificent collection of ophthalmological knowledge on his shelves. It will probably be many years before a similar book of equal importance will be published.

Growth of the Boston Eye and Ear Infirmary.—In thirty years the number of new patients treated in the Boston Eye and Ear Infirmary has increased nearly fivefold, and the number of operations over thirteenfold. The record stands:

Whole number of patients in 1868, 4,448; in 1878, 9,465; in 1888, 13,140; in 1898, 20,929. Number of operations: In 1868, 283; in 1878, 379; in 1888, 3,140; in 1898, 3,718. The operations for cataract in 1868 were 68; in 1878, 76; in 1888, 129; in 1898, 140. Even the out-patient department draws almost as many patients from Massachusetts outside of Boston as from that city. Last year Boston furnished 10,709, and the other towns in the state 9,933. The ophthalmic department is much larger than the aural. In the eye wards there were 1,096 patients, and out-patients numbered 15,486. In the ear wards the number stood at 324,. and out-patients were 5,443. During the year 1898, seventeen donations and bequests were received, aggregating the handsome fund of $110,000.—*Annals of Ophthalmology.*

Blake discusses the elimination of the pecuniarily unfit from the hospital dispensary. At the Massachusetts Charitable Eye and Ear Infirmary all suspicious cases are referred by the physicians to the executive office, and it has been proposed to have a special clerk in the dispensary for the purpose of questioning those who seem able to pay. All suspected patients are required to sign a paper in which they state that they require charity. Blake calls attention to the fact that so many different methods are employed that there is no uniformity or regularity in hospital procedure, and therefore suggests that a bureau or clearing-house be established in each large city by all the hospitals acting together, where suspected cases could be thoroughly investigated (J. S.).—*Philadelphia Medical Journal*, September 2, 1899.

Robert Gerlach, a resident of Sag Harbor, L. I., may lose his left eye as the penalty for his too great confidence in a bird of which he tried to make a pet. The bird, known as a "pile driver," is about the size of a crow, and possesses a long, slender bill. Gerlach purchased it of a

sportsman, who had broken its wing. After obtaining it he tied the bird to his waist by a string and set it upon his shoulder. The pile driver, unappreciative of the confidence it received from its new owner, darted out its long bill with lightning-like rapidity, striking Gerlach's left eye and inflicting a dangerous wound. Dr. C. E. Wells regards the prospects of saving the wounded eye as doubtful. The pile driver was killed.

(The news editor desires to say that incidents of this kind are not uncommon. There are some birds who live upon other birds and fishes, and before killing them, they render them powerless by picking out their eyes. It is very likely this instinct caused the above accident. The news editor remembers having seen a case once where a crane picked the eye of a patient, rendering enucleation necessary. It does not do to be on too familiar terms with birds possessing this disastrous instinct.)

A very interesting discussion took place in the Section of Ophthalmology of the British Medical Association at its last meeting upon Sympathetic Ophthalmitis. The discussion was participated in by Landolt, Krauss, McHardy, Caley, Marshall, de Schweinitz, Reeve, Bronner and Hern.

Notwithstanding the diversity of opinions concerning the enucleation of eyes suffering from sympathetic ophthalmitis, there seemed to be a singular unanimity of sentiment concerning the proper course to be pursued, by not only the essayist Mr. Cross, but also by the gentlemen who discussed his paper. The sentiment was unmistakably against the retention of dangerous eyeballs or the hopeless efforts sometimes made to save them to the detriment of the other. With regard to the pathology of sympathetic cases, the speakers all seemed to agree that neither the microbic theory nor that of reflex neurosis was definitely proved. There was a possibility that when scientific investigation was more perfect various kinds of microbes might be found implicating, if not actually causing, sympathetic complications. It seemed to Mr. Cross necessary to work carefully in the direction of seeing how far any general infection of the system (blood or organs) was present where septic uveitis had been developed in the sympathizing eye.

Les Verres Isométropes, par le Dr. de Bourgon, Maloine, 1899. —This monograph is a treatise on the physical and optical properties of spectacle lenses made of a new glass, of secret composition, devised and patented by Mantois, who for some reason unexplained has named it isometric. A year ago these lenses were put on the market by la Maison

Fischer, Paris, and they have been favorably reported on by several oculists and exploited in the lay press. The advantages of the new glass over the crown glass commonly used in spectacle lenses are, first, that it is more homogeneous, limpid, and transparent; and, second, that it is harder and of higher refractive index, so that for a lens of given focus the curvature is less, and there is consequently less spherical aberration. On the other hand, the disadvantages of the new glass are its great dispersion and its excessive chromatic aberration, which render strong lenses of this composition useless. Pebble lenses, while hard and beautifully transparent, must be cut in a certain relation to the axis of the crystal in order to be satisfactory. The most singular property of the new glass is its impenetrability to the Roentgen rays, and while lenses of pebble or of crown glass, even though tinted, come out pale in a skiagraph, the isometropic lens comes out quite black. By thus cutting off the Roentgen and ultra-violet rays, the author states that the wearing of plane isometropic glasses alone has sufficed to relieve retinal asthenopia in several patients.

The treatise is very complete, and the author seems to have considered every aspect of his subject.—*New York Medical Record*, July 22, 1899.

Opticians Protest.—The Optical Society of the State of New York met in executive session on Tuesday, June 27, at the Fifth Avenue Hotel. The principal object of the meeting was to perfect the affiliation of the various local societies throughout the State into a general state body, the principal affiliating societies being those of New York City, Syracuse, Rochester, and Buffalo. At the same time there was a warm discussion of the recent action of the American Medical Association at the Columbus meeting (published in the Journal) and of the American Institute of Homeopathy at Atlantic City. The Columbus resolution was introduced by Dr. J. L. Lautenbach, of Philadelphia, and is to the following effect:

"*Resolved*, That it is the opinion of the American Medical Association that opticians are not qualified by their training, nor are they legally qualified, to perform the work of the oculist, and they should not be the consultants of regular physicians. Further, it is resolved that all physicians are requested to call their brother physicians in consultation, thus discountenancing the growing pretenses or assurances of the optician, and his brother, the graduate optician, or, as he is now beginning to call himself, the 'ophthalmotrician.'"

The resolution of the Optical Society reads that "the society views with regret the unprofessional and unscientific attitude of those medical

societies in adjacent States who are led by designing eye-specialists to adopt resolutions tending toward the estrangement of opticians and physicians. This society believes that the honorable occupation of an optician entitles him to the same courteous consideration at the hands of medical men as that now accorded to those following dentistry and other mechanico-scientific callings." While the Optical Society took this action in relation to the limitation of their trade at the upper end, no consideration was given to the encroachments at the lower limit, where the greater amount of harm accrues to the users of aids to vision. Of eight department stores in New York chosen at random in the busiest retail shopping-district, six conduct an optical department, three of which advertise the services of graduate opticians. At any of the six establishments spectacles may be bought over the counter at the choice of the customer, one number after another being tried until a fit is found. Practically the only difference between the stores which have opticians and those which have not is to be found in the presence on the counter of more or less imposing mechanical test appliances which are seldom used. The glasses most commonly sold are those for simple myopia or simple presbyopia. Cases of astigmatism by itself or complicated with lens-deformity are met with the statement that the stock of that kind of glass has just been sold out and a cautious recommendation to some eye-clinic. On the day that the Optical Society was protesting against the action of the medical societies an actual count along four blocks of Fulton Street and the two adjacent blocks on Broadway showed nine venders of glasses whose stock was carried in barrows or boxes slung by a strap around the neck. These venders carried only a single line of glasses, those for "old sight." A tenth vender was omitted from the count because he dealt only in smoked and tinted glasses without refracting qualities.—*Philadelphia Medical Journal*, July 8, 1899.

The Thirteenth International Congress of Medicine meets in Paris from the 2d to the 9th of August, 1900. The American national committee has for its president Dr. William Osler, and for its secretary Dr. Henry Barton Jacobs, of No. 3 West Franklin Street, Baltimore, Md. Dr. O. F. Wadsworth will especially represent the ophthalmological section, and Dr. H. G. Miller the otological section. Those desiring to become members of this congress should write to Dr. Jacobs for an application blank, which must be filled out and returned, together with five dollars and a visiting card, to Dr. Jacobs. In due time cards of membership will be issued to accepted members from Paris. Members desiring to

present papers will forward the title and synopsis of the paper before May 1, 1900, to the secretary of the section to which they belong, for each sectional committee reserves to itself the right of drawing up its own working program. Papers are limited to fifteen minutes. It is much desired that many Americans will become members of this congress, so that our country mny be suitably represented. The fee for membership will entitle a member to receive a digest of the full proceedings of the congress, and the printed report of the section to which he belongs. This alone should be worth the price of admission. Should anyone become a member and desire such reports, he should send such a request in writing to M. Masson, publisher of the proceedings of the congress, 120 Boulevard St. Germain, Paris.

The sections of ophthalmology, otology, laryngology and rhinology will come under the general headings of the surgical sciences. The secretary of the section of ophthalmology is M. Parent, 26 Avenue de l'Opéra, French. The secretary of the section of otology is M. Castex, 30 Avenue de Messine, Paris. The secretary of the section of laryngology and rhinology is M. Lermoyez, 20 bis, Rue La Boëtie, Paris.

Those desiring to become members should request Dr. Jacobs to send them a copy of the rules and regulations, which is printed in English and in Paris. The French language is adopted as the official language of the congress in the international relations. In the general assemblies, likewise in the sectional meetings, the German, English and French languages may be employed.

The general president of the section of ophthalmology is Professor Panas of Paris; the vice-presidents are Javal of Paris and Gayet of Lyons; the secretary is Parent of Paris, whose name and address have already been given; the assistant secretaries are Chevalereau and Rochon Duvigneaud, both of Paris. Members of the executive committee are Abadie of Paris, Badal of Bordeaux, Bruch of Algiers, Chauvel of Paris, Chibert of Clermont-Ferrand, Dor of Lyons, Hocquard of Paris, Jacos of Paris, Lagrange of Bordeau, Landolt of Paris, de Lapersoune of Lille, Meyer of Paris, Rohmer of Nancy, Terson of Paris, Trousseau of Paris, and Trug of Montpelier.

The leading papers are three in number:

1. "Optics Neuritides of an Infectious and of a Toxic Origin," by Bellannuroff of St. Petersburg, Nuel of Liége, Uhthoff of Breslau.

2. "The Cortical Center of Vision," by Bernheimer of Vienna, Angelucci of Palermo, Henschen of Upsala.

3. "The Comparative Value of Enucleation and of the Operations

Suggested to Replace It," by Pflüger of Berne, Snellen of Utrecht, R. H. Swanzy of Dublin, and von Schweinitz of Philadelphia. It will be noticed that our distinguished friend, George de Schweinitz, is no other than the Teutonic *von* Schweinitz whose name graces the program of ophthalmology.

The Transference of Tactile Sensations into Visual Ones.—Dr. Frank R. Fry (*Journal of Nervous and Mental Disease*, August) recently related to the American Neurological Association the following very interesting case. He said that the subject was a hysterical girl, aged fourteen years, who before the time that his examinations were made, in January, February, and March, 1898, had been under the observation of Dr. George M. Tuttle, who felt secure in a diagnosis of ulcer of the stomach on account of hemorrhage, pains, etc., in fact, typical symptoms with subsequent exhaustion. In this exhausted condition she had repeated attacks of delirium, alternating with more quiet hallucinatory states. She had frequently hemiopic hallucination and monocular diplopia. Soon after coming under the author's observation there appeared a complete anæsthesia and paralysis of the whole right side. She was anæsthetic to touch, temperature, and pain tests made in the usual way.

Dr. Fry had no difficulty in reproducing the Binet experiments in this girl. He directed her to look at the wall (a plain white surface) on the left side of her bed, and to tell him what kind of *objects* she saw there. He then traced on the anæsthetic (right) arm and forearm various simple geometrical figures: triangles, squares, circles, etc. She saw them distinctly on the wall, naming them without hesitation from the first. Letters and numerals carefully traced were recognized in the same way. The tracings were lightly made with the finger-nail or an ordinary lead pencil not much sharpened. When directed to look at a colored screen during the tracing she always saw the figures surrounded by the color complementary to the one before her—*i. e.*, while looking at the blue screen she saw the figures in a red (orange?) field, and vice versa. Only blue and red screens were used, but other tests revealed a perversion of color perception.

Simple objects placed in the anæsthetic hand, and the hand closed upon them, were seen upon the screen—*e. g.*, an opened match-box. A silver dollar was recognized as a disk. A handkerchief was tied about the wrist. She immediately announced on the screen "a dark arm and hand with a dark cloth tied around it." Other tests quite as interesting were

made, serving to draw attention to an interesting hysterical phenomenon —namely, that while the subject could not recognize in the ordinary way certain sensory impressions (tactile), she could interpret them by the aid of another sensory function (visual). The author says that the experiment of transferring by suggestion a hysterical anæsthetic from one area to another is a familiar one. What he had just described is similar, but it is not exactly parallel. In the latter case a more complicated psychic process takes place.

Dr. Fry said that it might not be out of place to state that great care was used in conducting these experiments. The nurse was carefully cautioned; and only she and persons who understood the necessity of caution were admitted to the room when the examinations were being made. The patient never knew at any time that the tracings were made upon the arm, or that this member was used in any way in the process. She was curious to understand how the pictures were produced. She constantly besought the nurse for an explanation, who finally told her that a small magic lantern was used for the purpose. She then frequently asked me when I would allow her to see the lantern. She was an intelligent and tractable child, a very good subject for this kind of work.

Dr. H. Hermann, Dr. Given Campbell, and Dr. M. A. Bliss, all familiar with neurological work, witnessed the examinations. Subsequently the patient was under the care of Dr. E. G. Runge at the City Insane Asylum.

Treatment of Trachoma by the Excision of the Conjunctival Cul-de-Sac—Galezowski.—This form of treatment has been found successful in cases which have resisted all other measures. Three important points: 1. The excised portion must include only the conjunctiva. 2. The incision must be prolonged as far as possible toward the angle of the eye. 3. It must not include the tarsus. After cocainization or general anæsthesia, the upper lid is everted and one of the arms of the author's double forceps is introduced beneath it; the conjunctiva is seized and drawn away from the tarsus. It is then dissected back of the forceps the whole length of the lid, then drawn forward, the portion held by the forceps cut off and the eye closed. An ice-bag is applied and a carbolized collyrium used, cicatrization resulting in a few days.—*Recueil D'Ophtalmologie.*

VOL. VIII 1899 NEW SERIES

THE OPHTHALMIC RECORD

A Monthly Review of the Progress of Ophthalmology.

EDITED BY

CASEY A. WOOD, M.D. — CHICAGO
G. C. SAVAGE, M.D. — NASHVILLE
GEO. E. DE SCHWEINITZ, M.D. — PHILADELPHIA
JOHN E. WEEKS, M.D. — NEW YORK
EDWARD JACKSON, M.D. — DENVER, COL.
H. V. WÜRDEMANN, M.D. — MILWAUKEE
W. E. HOPKINS, M.D. — SAN FRANCISCO
HAROLD GIFFORD, M.D. — OMAHA

T. A. WOODRUFF, M.D.
EDITORIAL SECRETARY
103 E. ADAMS STREET, CHICAGO, ILL.

COLLABORATORS.

FRANCIS VALK, M.D. — NEW YORK
A. W. CALHOUN, M.D. — ATLANTA, GA.
FRANK ALLPORT, M.D. — CHICAGO
ALVIN A. HUBBELL, M.D. — BUFFALO, N. Y.
E. OLIVER BELT, M.D. — WASHINGTON, D. C.
JOHN FULTON, M.D. — ST. PAUL, MINN.
EDWIN VAN MILLINGEN, M D. — CONSTANTINOPLE, TURKEY
F. B. EATON, M.D. — SAN FRANCISCO, CAL.
J. W. STIRLING, M.D. — MONTREAL, CAN.
MELVILLE BLACK, M.D. — DENVER, COL.
WM. DUDLEY HALL, M.D. — BOSTON, MASS.
ROBERT L. RANDOLPH, M.D. — BALTIMORE, MD.
GEORGE J. BULL, M.D. — PARIS, FRANCE
JOHN W. BARRETT, M.D. — MELBOURNE, AUSTRALIA
C. DEVEREUX MARSHALL, F.R.C.S. England, LONDON, ENGLAND.

SUITE 3, THE HIGH BUILDING, CHICAGO, U. S. A.

INDEX TO VOLUME VIII, NEW SERIES

JANUARY TO DECEMBER, 1899

The Ophthalmic Record,
Chicago.

CONTRIBUTORS TO VOLUME VIII.

Allport, Frank, M.D., Chicago.
Ball, James Moores, M.D., St. Louis, Mo.
Bane, William C., M.D., Denver, Colo.
Baxter, Wm. E., Boston, Mass.
Bicknell, Geo. H., Omaha, Neb.
Bize, Louis R., A.B., M.D., Tampa, Fla.
Black, Melville, Denver, Colo.
Black, Nelson Miles, M.D., Milwaukee, Wis.
Brooks, Almon, M.D., Chicago.
Bruner, William E., A.M., M.D., Cleveland, O.
Brunson, Randolph, M.D., Hot Springs, Ark.
Calhoun, A. W., Atlanta, Ga.
Carhart, William D., M.D., New York.
Chandler, H. Beckles, M.D., Boston, Mass.
Colburn, J. Elliott, M.D., Chicago.
Coover, David H., M.D., Denver, Colo.
Cowgill, Warwick M., Ph.B., M.D., Paducah, Ky.
Culbertson, L. R., M.D., Zanesville, O.
Dalby, James W., B.S., M.D.
Dean, L.W., M.S., M.D., Iowa City, Ia.
Denig, R., M.D., New York.
Donovan, John A., M.D., Butte, Mon.
Duane, Alex., M.D., New York.
Eagleton, S. Potts, M.D., Ocala, Fla.
Eaton, F. B., M.D., San Francisco, Cal.
Ellett, E. C., M.D., Memphis, Tenn.
Erwin, A. J., M.D., Mansfield, O.
Fridenberg, Percy, M.D., New York.
Gardener, C. R., M.D., Northampton, Mass.
Gifford, H., M.D., Omaha, Neb.
Gradle, H., M.D., Chicago.
Greene, D. Milton, M.D., Grand Rapids, Mich.
Greenwood, Allen, M.D., Boston, Mass.
Hall, Wm. Dudley, M.D., Boston, Mass.
Hamilton, E. E., M.D., Wichita, Kan.
Harlan, Geo. C., M.D., Philadelphia, Pa.
Hopkins, W. E., San Francisco, Cal.
Hotz, F. C., M.D., Chicago.
Hubbell, Alvin A., M.D., Buffalo, N. Y.
Huizinga, J. G., M.D., Chicago.
Jackson, Edward, A.M., M.D., Denver, Colo.
Jay, M. T., M.D., Portland, Ind.
Jenkins, Norburne B., M.D., Knoxville, Tenn.
Johnson, Walter B., M.D., Paterson, N. J.
Keiper, Geo. F., A.M., M.D., Lafayette, Ind.
Kelley, B. E., M.D., Carroll, Ia.
Kollock, Charles W., M.D., Charleston, S. C.
Lapsley, Robert M., M.D., Keokuk, Ia.
Lyons, Ira A. E., M.D., Salt Lake City, Utah.
Martin, W. A., M.D., San Francisco, Cal.
McReynolds, Jno. C., B.S., M.D., Dallas, Tex.
Mitchell, S., M.D., Hornellsville, N. Y.
Morton, H. McI., M.S., M.D., Minneapolis, Minn.
Moulton, H., B.S., M.D., Fort Smith, Ark.
Mullen, Joseph A., M.D., Houston, Tex.
Muncaster, S. B., M.D., Washington, D.C.
Murray, W. R., M.D., Milwaukee, Wis.
Murphy, F. G., M.D., Kansas City, Mo.
Nottage, H. P., M.D., Providence, R. I.
Oliver, Chas. A., A.M., M.D., Philadelphia, Pa.
Park, J. Walter, M.D., Harrisburg, Pa.
Patillo, R. S., M.D., Chicago, Ill.
Peters, W. H., M.D., Lafayette, Ind.
Pfingst, Adolph O., M.D., Louisville, Ky.
Pyle, Walter L., M.D., Philadelphia, Pa.
Randolph, Robert L., M.D., Baltimore, Md.
Raub, J. F., M.D., Washington, D.C.
Ray, J. Morrison, M.D., Louisville, Ky.
Reagan, E. W., M.D., Canton, Ill.
Reber, Wendell, M.D., Philadelphia, Pa.
Risley, S. D., A.M., M.D., Philadelphia, Pa.
Rogers, F. T., M.D., Providence, R. I.
Rogers, W. K., M.D., Columbus, Ohio.
Satterlee, Richard H., M.D., Buffalo, N.Y.
Sattler, Robert, M.D., Cincinnati, Ohio.
Savage, G. C., M.D., Nashville, Tenn.
Schweinitz, G. E. de, A.M., M.D., Philadelphia, Pa.
Stephenson, C. C., M.D., Little Rock, Ark.
Stillson, J. O., M.D., Indianapolis, Ind.
Stillson, Hamilton, M.D., Seattle, Wash.
Stirling, Alex W., M.D., C.M., Edin., D.P.H., London, etc., Atlanta, Ga.
Suker, Geo. F., M.D., Toledo, O.
Tansley, Oscroft, M.D., New York.
Valk, Francis, M.D., New York.
Veasey, A. M., M.D., Philadelphia, Pa.
Verhoeff, Frederick Herman, Ph.D., M.D., Baltimore.
Voorhees, Sherman, M.D., Elmira, New York.
Wood, Casey A., M.D., Chicago.
Woods, Hiram, Jr., M.D., Baltimore, Md.
Woodward, Jno. F., M.D., Norfolk, Va.
Würdemann, H. V., M.D., Milwaukee, Wis.

INDEX.

A

Abscission and Combined Keratectomy 290
Accommodation, Necessity for Knowing the Range of 163
Acoin, A Communication upon. A New Local Anesthetic 401
Albuminuria and Its Relation to Diseases of the Eye 433
Albuminuric Retinitis, A Case of One-sided 551
Albuminuric Retinitis as an Element of Prognosis in Bright's Disease 227
Allport, Frank 347, 516, 573, 574
Amaurosis from the Inhalation of the Vapor, Two cases of Methyl Alcohol 599
Amaurosis, Recent Researches on the Genesis of Quinine 610
Amblyopia without Ophthalmoscopic Lesions, Diagnostic Significance of One-sided 181
Amblyopia Due to the Use of Methyl Alcohol, A Case of 335
Ametropia, The Significance of Certain Rare Forms of 389
Antipathy to Binocular Single Vision 446
Apparatus for Testing the Color Sense, A Convenient 445
Artificial Eye Filled with Wax, An 522
Astigmatic Charts, Two New 541
Astigmatism, Importance of 563

B

Ball, James Moores 547
Bane, Wm. C. 22, 440
Baxter, Wm. E. 470
Bicknell, George H. 337
Bize, Louis A. 571
Black, Melville 135, 304, 352, 523, 613
Black, Nelson Miles 574
Blindness, Acute Color 4
Blindness, The Detection of Simulated Monocular 10
Blindness Following the Intoxicating Use of Jamaica Ginger 55
Blindness to Normal Color Vision as Computed from 308,919 Cases, The percentage of Color 332
Blindness in a Young Girl, Quinine 398
Blindness from Drinking Methyl Alcohol 441
Brooks, Almon 180
Bruner, Wm. E. 326
Brunson, Randolph 555
Burnett, Swan M. 601

C

Calhoun, A. W. 150
Capsular Cataracts 447
Capsular Membranes, Experiences with Operations for Secondary 383
Carhart, Wm. D 1
Cassaripe in Corneal Suppuration 554
Cataphoresis, Treatment of Diseases of Lacrymal Duct by 225
Cataphoresis of the Lacrymal Duct 471
Cataract, with a Report of Five Operations, Diabetic 170
Cataract, Popular and Semiscientific Notions About 403
Cataract Extraction with Recovery of Useful Vision, Intra-ocular Hemorrhage Following 547
Cavernous Sinuses, Septic Thrombosis of the 326

Cervical Sympathetic Ganglion for Glaucoma with a Report of a Case, Excision of the Superior---------- 510
Chancre of the Conjunctiva, A Case of---------- 285
Chandler, H. Beckles---------- 447
Charts, Two New Astigmatic---------- 541
Chamber Fourteen Days, Intense Pain and Severe Inflammation with Scanty Discharge of Pus; Enucleation, Piece of Granite in Posterior- 548
Check Ligament, Further Observations Concerning the---------- 124
Choked Disks in a Case of Quiet Otitic Thrombosis of Sigmoid Sinus without Pyæmia, A Clinical Study of Double---------- 293
Chromatopsia and Toxic Hysteria, A Note on---------- 18
Ciliated Tumor of the Conjunctiva- 514
Colburn, J. Elliott---------- 124
Color Blindness, Acute---------- 4
Color Blindness to Normal Color Vision as Computed from 308,919 Cases, The Percentage of---------- 332
Color Sense, A Convenient Apparatus for Testing the---------- 445
Commissions from Specialist to Family Physician---------- 135
Conjunctiva, Angio-neurotic Oedema of the---------- 178
Conjunctiva, Ciliated Tumor of the- 514
Conjunctival and Corneal Diseases from a Bacteriological Standpoint, Concerning Certain---------- 80
Coover, David H.---------- 222
Cornea, Two Cases of Congenital Opacity of the---------- 114
Cornea, Note on Normal Opacities of the---------- 133
Corneal Suppuration, Cassaripe in- 554
Corneal Ulcers---------- 8
Cowgill, Warwick M.---------- 129
Culbertson, L. R.---------- 224
Cylindrical Transposition---------- 15
Cycloplegia in the Refraction Room- 304
Cyst of the Vitreous---------- 487

D

Dacryocystitis, Etiology and Therapy of Purulent---------- 523
Dalby, James W.---------- 572
Dean, L. W.---------- 551, 572
Denig, R.---------- 168, 226
Diabetic Cataract, with a Report of Five Operations---------- 170
Donovan, John A---------- 554
Duane, Alexander---------- 71, 178, 179

E

Eagleton, S. Potts---------- 325
Eaton, F. B.---------- 148, 395, 520
Egg Membrane in Ophthalmic Surgery, The Use of---------- 222
Ellett, E. C.---------- 115, 285
Embolism of the Central Artery of the Retina after Ligation of the Vessels of the Neck, Thrombosis or 595
Embolism of the Central Artery of the Retina, A Contribution to the Treatment of---------- 271
Embolism of the Lower Branch of Central Retinal Artery---------- 129
Emphysema of the Lids Following Fractures of the Inner Wall of the Orbit from a Fist Blow---------- 545
Epithelial Growth on the Upper Eyelid of a Female, Notes on a rare---------- 621
Erwin, A. J.---------- 4
Ethics or Professional Relations, A Question of---------- 404
Ethmoidal Cells; Operation and Cure, Fistula of the Orbit Due to Disease of the Lacrymal Division of the---------- 286
Ethmoidal Cells, Orbital Complications of Empyema of the---------- 472
Ethmoid Sinus Disease, with Its Ocular and Orbital Symptoms, Uncommon Expressions of---------- 379
Euphthalmin, The Mydriatic Action and Value of---------- 343
Excision of the Superior Cervical Sympathetic Ganglion for Glaucoma, with a Report of a Case---------- 510
Exophthalmus from Aneurismal Varix in the Neck, Pulsating---------- 174
Extirpation of the Lacrymal Sac-- 357
Extrinsic Poisons on the Eye, the Effect of the---------- 150

Eye, The Effect of the Extrinsic Poisons on the ---------- 150
Eyeball and Retinoscopy, A Simple Device for Combined Examination of the Anterior Portion of the---- 77
Eyeball and Exhibition of a New Portable Electro-Magnet, Report of a Case of Removal of Steel from the---------- 558
Eyelid (Painful Subcutaneous Tubercle of Wood), Brief Report of a Case of Fibroma of the---------- 292

F

Fibroma of the Eyelid (Painful Subcutaneous Tubercle of Wood), Brief Report of Case---------- 292
Field of Fixation, Two New Instruments for Measuring the Monocular---------- 395
Fistula of the Orbit Due to Disease of the Lacrymal Division of the Ethmoidal Cells, Operation and Cure ---------- 286
Foreign Body in the Iris ---------- 337
Foreign Body in the Iris Thirty Years 233
Fridenberg, Percy---------- 10

G

Gardener, C. R.---------- 570
Gifford, Harold-133,174,303,441,579. 595
Glass Eyeballs as Ocular Prothesis-- 352
Glaucoma, Excision of the Superior Cervical Sympathetic Ganglion for Glaucoma, with a Report of a Case 510
Glioma, Pseudo---------- 130
Gradle, H. ---------- 181
Graefe-Saemisch Handbuch der Gesamten Augenheilkunde, The New- 582
Greene, D. Milton ---------- 461
Greenwood, Allen---------- 566

H

Hall, Wm. Dudley---------349, 356, 357
Hamilton, E. E. ---------- 507
Harlan, George C. ---------- 290
Headache, Ocular Phases of ------- 530
Hemorrhage into the Bulbar and Palpebral Conjunctiva Following the Administration of Nitrous Oxide Gas, Punctate ---------- 79
Hemorrhage Following Cataract Extraction, with Recovery of Useful Vision, Intra-Ocular ---------- 547
Hemorrhage into the Vitreous, Rapid Recovery of Normal Vision Following ---------- 571
Herpes Zoster Ophthalmicus, Report of a Case of ---------- 217
Herpes Zoster Ophthalmicus, One Complicated by Glaucoma, A Report of Two Cases of---------- 572
Heterophoric Cases, The Conduct of 347
Hopkins, W. E. ---------- 577
Hotz, F. C.---------- 561
Hubbell, Alvin A. ----------92, 358
Huizinga, J. G.---------- 163
Hysteria, A Note on Toxic Chromatopsia and Toxic---------- 18
Hysteria, and Treatment, Two Cases with Ocular Symptoms of-------- 74

I

Injury, An Unusual Case of-------- 515
Inoculation of the Eyeball with Vaccine Virus, Report of a Case of Accidental---------- 325
Investigators of Ophthalmology and Their Critics---------- 520
Iris, Foreign Body in the---------- 337
Iris Thirty-two Years, Foreign Body in the ---------- 233
Iritis in Syphilis and Rheumatism Observed in Three Thousand Cases, Relative Frequency of-- - 555

J

Jackson, Edward------ 343, 405, 467, 619
Jamaica Ginger, Blindness Following the Intoxicating Use of------- 55
Jay, M. T.---------- 233
Jenkins, Norburne B.---------- 15
Johnson, Walter B. ---------- 558

K

Keiper, George F.---------- 225
Kelley, B. E. ---------- 569
Keratectomy, Abscission and Combined -- ---------- 290

Keratectomy, The Report of a Case of ... 544
Keratitis, Is Orthoform Always Safe in ... 570
Keratitis, with a Report of the Blood Examinations, A Series of Cases of Malarial ... 115
Keratitis, Ulcerativa Marginalis ... 176
Keratoconus ... 569
Kollock, Charles W. 544

L

Lapsley, Robert M. ... 563
Lacrymal Duct, Cataphoresis of the ... 471
Lacrymal Duct by Cataphoresis, Treatment of Diseases of ... 225
Lacrymal Sac, Extirpation of the ... 357
Lens, Bilateral Spontaneous Dislocation of the ... 567
Lens Thirty-two Years, Foreign Body in ... 78
Lenticonus, On the Histology and Etiology of Posterior ... 168
Lids, For Removal of Warts of the ... 180
Ligament, Further Observations Concerning the Check ... 124
Lyons, Ira A. E. ... 522

M

Magnet, Some Experiments with the Giant ... 109
Magnet, Report of a Case of Removal of Steel from the Eyeball and Exhibition of a New Portable Electro ... 558
Martin, W. A. ... 176
McReynolds, John C. ... 499
Methyl Alcohol, A Case of Amblyopia Due to the Use of ... 335
Methyl Alcohol, Blindness from Drinking ... 441
Methyl Alcohol Amaurosis from the Inhalation of the Vapor, Two Cases of ... 599
Microscopes for the Examination of the Anterior Segment of the Eye ... 467
Microphthalmic Eye, with Large Coloboma of Choroid, A Case of ... 513
Mitchell, S. ... 445, 598
Morton, H McI. ... 79
Moulton, H. ... 335, 398
Muscular Anomalies ... 25
Mullen, Joseph ... 332
Muncaster, S. B ... 24
Muscles, When and Why Shall We Operate on Insufficiencies of the Ocular ... 148
Murray, W. R. ... 220, 552
Murphy, F. G. ... 114

N

Neoplasms of the Eye, Malignant ... 499
Neuritis in the Localization of Intracranial Tumors, Optic ... 358
News Items ... 53, 97, 154, 209, 258, 318, 374, 428, 481, 533, 585, 639
Nottage, H. P. ... 78

O

Obstructed Retinal Circulation, with a Series of Pictures Showing the Changes in the Vascular System During Its Re-establishment and the Formation of New Vessels in the Retina, A Case of ... 601
Ocular Movements, The Nomenclature of the ... 71
Ocular Phases of Headache ... 530
Oculist, The Ocular Qualifications of the ... 36
Oculist and the Optician, The ... 516
Oculist and Optician Question, Again the ... 577
Oculist vs. the Optician, The ... 615
Oedema of the Conjunctiva, Angio-Neurotic ... 178
Oliver, Charles A. ... 292
Ophthalmia Neonatorum, Pyoktannin (Blue) for ... 224
Ophthalmic Surgeon in the Army of the Philippines, Some Experiences of ... 574
Optic Neuritis in the Localization of Intracranial Tumors ... 358
Optician Question Again, The ... 579
Optician, The Oculist and the ... 516
Optician, The Oculist vs. the ... 615
Optician Question, Again the Oculist and ... 577

Optician, The Refracting 470
Optotypes, Landolt's New 624
Orbit, Varicose Veins in the 226
Orbit from a Fist Blow, Emphysema of the Lids Following Fracture of the Inner Wall of the 545
Ortboform Always Safe in Keratitis? Is 570

P

Park, J. Walter 74
Paralysis of Third Nerve 130
Patillo, R. S. 599
Penetration of an Eye with a Rusty Twenty-penny Cut Spike 440
Peters, W. H. 471
Pfingst, Adolph O. 217
Phlyctenular Ophthalmia, Contribution to the Bacteriological Study of 92
Prothesis, Glass Eyeballs as Ocular 352
Pyle, Walter L. 77
Pyoktannin (Blue) for Ophthalmia Neonatorum 224

Q

Quinine Amaurosis, Recent Researches on the Genesis of 610
Quinine Blindness in a Young Girl 398

R

Randolph, Robert L. 170, 401, 472
Ray, J. Morrison 383
Raub, J. F. 619
Reagan, E. W. 575
Reber, Wendell 545
Refraction, The Present Status of 17, 194
Refraction Room, Cycloplegia in the 304
Refraction of Trachomatous Eyes, The 507
Refractionist, The General Practitioner as a 613
Retinal Circulation, with a Series of Pictures Showing the Changes in the Vascular System During Its Re-establishment and the Formation of New Vessels in the Retina, A Case of Obstructed 601
Retinal Sequelæ of Diseases Affecting the United States Troops in Cuba and Porto Rico, Report of Seven Cases of 489
Retinitis, A Case of One-sided Albuminuric 551
Retinitis as an Element of Prognosis in Bright's Disease, Albuminuric 227
Retinitis Due to a Flash of Electric Light, A Case of Macular 220
Retinoscopy, A Simple Device for Combined Examination of the Anterior Portion of the Eyeball and 77
Risley, S. D. 389, 530
Rogers, F. T. 227
Rogers, W. K. 489

S

Sarcoma of the Choroid in a Child, A Case of Leuco 1
Satterlee, Richard H. 17
Sattler, Robert 338, 378
Savage, G. C. 25, 192, 466
Schweinitz, George E. de 18, 80, 286, 581, 610, 624
Sclerotic, Hernia of the 24
Secondary Capsular Membranes, Experiences with Operations for 383
Shade, A Simple Eye 598
Sigmoid Sinus without Pyæmia, A Clinical Study of Double Choked Discs in a Case of Quiet Otitic Thrombosis of the 293
Society Reports:
American Medical Association, Section on Ophthalmology 363
American Ophthalmological Society 417
Chicago Ophthalmological and Otological Society 45, 138, 196, 251, 306, 410, 633
College of Physicians, Philadelphia, Section on Ophthalmology 87, 141, 200, 244, 312, 627
International Medical Congress, Ophthalmological Section 581
Kansas City Ophthalmological Society 632
Louisville Ophthalmological and Otological Society 234
Midland Ophthalmological Society, The 250

San Francisco Society of Eye, Ear, Nose and Throat Physicians---- 44, 86, 146, 198
Ophthalmological Society of the United Kingdom---- 39, 84, 206, 241, 407, 630
Society of Ophthalmologists and Otologists, Washington, D.C.---- 248
Western Ophthalmologic and Oto-Laryngologic Association ------ 90
Specialists Ever Pay for Cases Referred to Them, Should ------- 303
Stephenson, C. C. ---------- 548
Stillson, J. O. ---------- 502
Stillson, Hamilton ---------- 109
Stirling, Alex. W. ---------- 433
Strabismus, The Etiology and Educative Treatment of Convergent -- 148
Strabismus Cured by Correction of Myopia, Divergent------ ------ 179
Strabismus by a New Method and New Instrument, Correction of Divergent ---------- ------ 461
Strabismus or Squint, A Theory and Treatment-- ---------- 449
Suker, Geo. F.---------- 510
Symblepharon of the Upper Lid Relieved by Thiersch Skin Grafting, Total---------- 561
Sympathetic Ophthalmia, The Question of Operation on the Injured Eye in---------- 338
Sympathetic Ophthalmia, Tattooing of the Cornea and---------- 356
Syphilide of Eyelid, Forehead and External Nose, Serpiginous------ 552

T

Tansley, Oscroft, M.D.---------- 487
Tattooing of the Cornea and Sympathetic Ophthalmia---- - - 356
Tenonitis, Acute---------- 566
Thiersch Skin Grafting, Total Symblepharon of the Upper Lid Relieved by ---------- 561
Tilting Head Toward One Shoulder, Cause of---------- 192
Therapeutics in Ophthalmology, The Danger of Pseudo---------- 349
Thrombosis of the Cavernous Sinuses, Septic---------- 326
Thrombosis or Embolism of the Central Artery of the Retina after Ligation of the Vessels of the Neck 595
Thrombosis of the Sigmoid Sinus without Pyæmia, A Clinical Study of Double Choked Discs in a Case of Quiet Otitic---------- 293
Toxic Amblyopia, Illustrating the Importance of Detecting this Disease in All Cases Where Railroad Employes Are Affected. Report of a Case ---------- 502
Trachomatous Eyes, The Refraction of---------- 507
Tumor of the Conjunctiva, Ciliated- 514
Tumors, Optic Neuritis in the Localization of Intracranial--------- 358

V

Vaccine Virus, Report of a Case of Accidental Inoculation of the Eyeball with ---------- ---------- 325
Valk, Francis----------449, 615
Varicose Veins in the Orbit--------- 226
Veasey, A. M.---------- 293
Verhoeff, Frederick H.---------- 541
Vision of Right Eye Destroyed by the Kick of a Horse on Right Supra-Orbital Ridge and Right Cheek ---------- ---------- 22
Vision, Antipathy to Binocular Single----- ---------- -- 466
Vitreous, Cyst of the---------- 487
Vitreous, Rapid Recovery of Normal Vision Following Hemorrhage in the---------- ---------- 571
Voorhees, Sherman---------- 194

W

Wood, Casey A.----------271, 582, 621
Woods, Jr., Hiram---------- 55
Woodward, John F.---------- 8
Würdemann, H. V. ----------36, 220, 552

ARGENTAMINE.

A MORE EFFICIENT AND NON-IRRITATING SUBSTITUTE FOR SILVER NITRATE.

Argentamine is a solution containing 10 per cent each of nitrate of silver and ethylenediamine.

Dr. C. Pezzoli, as the result of a series of experiments to determine the relative penetrating powers of the various silver preparations, found that Argentamine proved the most effective, and protargol the least so, argentic nitrate and largin having an intermediate strength.

Argentamine is non-caustic in medicinal solutions. Instilled into the conjunctival sac, it causes neither burning nor pain; nor does it ever occasion the intensely irritant effects, epiphora, blepharospasm, and chemosis so often seen with the nitrate. Argentamine has a far stronger antiparasitic action. It is not precipitated by the normal saline and albuminous fluids of the urethra and conjunctiva; the ethylenediamine in it readily dissolving both albumen and silver chloride. Hence it penetrates into the deeper epithelial layers and destroys the micro-organisms present there, whilst silver nitrate is precipitated in an insoluble and inefficacious form Argentamine can be used in all cases suited to the exhibition of silver nitrate.

Argentamine has been employed for several years in **Prof. Hoor's Eye Clinic** in Klausenburg in a large number of affections of the conjunctiva with highly gratifying results. The conjunctiva treated with Argentamine becomes paler, the swelling diminishes, and secretion decreases. Burning and pain are absent, and the patient can open his eyes without trouble.

Dr. Josef Imre, of Budapest, has used Argentamine extensively in conjunctivitis, catarrhal and gonorrheal ophthalmia, purulent keratitis, trachoma, etc., and recommends it strongly to ophthalmologists.

Argentamine is employed in 5 per cent watery solutions, being penciled or instilled into the eye once or twice daily, without after-irrigation.

EUPHTHALMIN.

A POWERFUL MYDRIATIC POSSESSING SEVERAL IMPORTANT ADVANTAGES OVER THE AGENTS HERETOFORE EMPLOYED FOR THE PRODUCTION OF A TEMPORARY MYDRIASIS.

Euphthalmin Hydrochlorate is a white, crystalline powder, readily soluble in cold water. It is an active mydriatic, which does not damage the corneal epithelium. The mydriasis and the slight accommodation paralysis, when present, disappear more quickly than with homatropin, cocain, etc., and there never occur any unpleasant effects upon the organism. Thorough investigations at the **Eye Clinics of the Universities of Goettingen, Marburg, and Giessen,** demonstrate this conclusively. **Dr. Winselmann,** of Berlin, considers it a valuable mydriatic for diagnostic purposes, causing neither conjunctival nor corneal irritation; and there is no pain nor rise in ocular tension. **Dr. J. M. Ball,** Professor of Ophthalmology at the St. Louis College of Physicians and Surgeons, employs it for ophthalmoscopic examinations of the eye, and for correction of errors of refraction by retinoscopy with great satisfaction. It is to be employed as a 5 to 10 per cent solution.

Euphthalmin is supplied in ½ and 1 gramme vials at $1.75 per gramme.

TRIKRESOL.

A PRE-EMINENT ANTISEPTIC AND DISINFECTANT.

It is a clear, white liquid, having three times the disinfectant value of carbolic acid as determined by Professors Fränkel and Gruber; whilst it is three times less poisonous and less caustic. **Prof. E. A. de Schweinitz,** of Washington, D. C., recommends it very highly as an antiseptic for collyria, 1 to 1000 parts of water, preventing all bacterial growth, no matter how long the solutions are kept, and being absolutely non-irritating to the conjunctiva.

SCHERING'S Beta-Eucain, Eka-Iodoform, (Sterilized Iodoform), Formalin, Formalin Sterilizer, Formalin Lamp, Formalin Disinfector, and Thiosinamin.

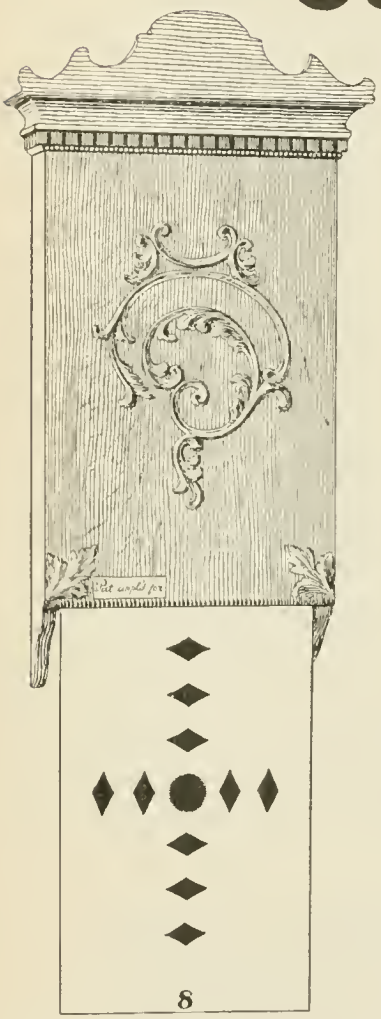
VON HEYDEN'S Citrate and Lactate of Silver (Credé's), Collargolum (soluble metallic silver), and Unguentum Credé, Hyrgolum (allotropic form of solid mercury soluble in water) and Xeroform.

LITERATURE ON APPLICATION.

SCHERING & GLATZ,

Sole Agents for U. S. and Canada. 58 MAIDEN LANE, N. Y.

The Ophthalmic Cabinet



is no longer an experiment, for, both in this country and in Europe it is installed supreme in the parlors of numerous Oculists and Opticians, and is receiving their unstinted commendation for subjective examinations.

Card No. 8 is for Heterophoria, and the central figure is red. This card furnishes the most correct and convenient test for muscular imbalance. Circulars fully describe the use of the card.

It is never safe to prescribe lenses without testing the motor muscles. The quality of your work makes your reputation; the quantity, your fortune. The Cabinet will materially aid you in both.

For sale by all the leading jobbers. Price, $10.00.

Emaculine makes glasses shine. Sold by all the leading jobbers. It removes all extraneous substances from the lens, and is an anti-rust and corrosive. Bottles have a metal top and valve. Price, 25 cents per bottle.

BROWN & BURPEE, MANCHESTER, N. H.

Climate

FOR
Weak Lungs,
Weak Throats,
Weak Bodies.

Cure

The Health Resorts of New Mexico and Arizona

are unrivaled. Pure, dry air; an equable temperature, the right altitude, constant sunshine.

Send for descriptive pamphlets issued by Santa Fe Route Passenger Department. It will do your eyes good to see them.

General Passenger Office,
The Atchison, Topeka & Santa Fe Railway,
CHICAGO.

A GROWING number of oculists subscribe to The Optical Journal for the purpose of keeping informed as to the latest inventions of opticians, and the methods of the best refractionists.

The Optical Journal

is the only paper devoted exclusively and entirely to optics and the optical trade.

One Dollar a Year.
10 Cents a Copy.

Published once a month by

FREDERICK BOGER
36 Maiden Lane, New York City.

Fifty Cents

EACH

Will be paid for copies of the

JANUARY,

1899,

Ophthalmic Record

Address
THE PUBLISHER,
High Building,
CHICAGO.

50 YEARS' EXPERIENCE

PATENTS

TRADE MARKS
DESIGNS
COPYRIGHTS &C.

Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. Handbook on Patents sent free. Oldest agency for securing patents.

Patents taken through Munn & Co. receive *special notice*, without charge, in the

Scientific American.

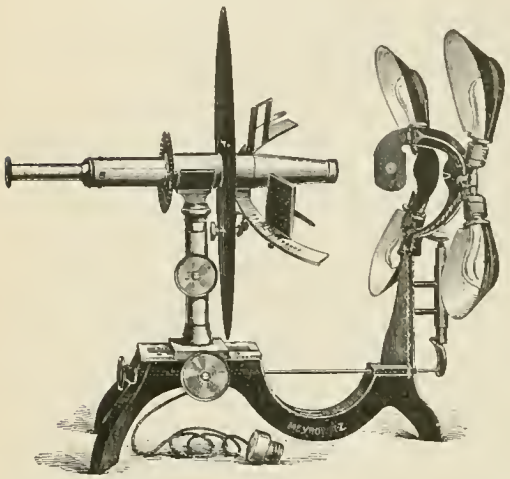
A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms, $3 a year; four months, $1. Sold by all newsdealers.

MUNN & Co. 361 Broadway, **New York**
Branch Office, 625 F St., Washington, D. C.

Meyrowitz Ophthalmometer

PATENT APPLIED FOR.

THE LATEST AND BEST.



PERFECT IMAGE and ALL MECHANICAL IMPROVEMENTS.

1. Rack and Pinion Adjustment on Base.
2. Rack and Pinion Perpendicular Adjustment on Column.
3. Double Movable Mires, with Gear Adjustment and Automatic Index of Position of same on back of Large Dial.
4. Cam Adjustment of Chin-Rest from Back of Base.
5. Morgan's Artificial Cornea, with Cell and Graduated Scale on Swinging Eye Shield.
6. Electric Illumination, with Switch and Connecting Cords.

Write for description and price.

Unsurpassed Facilities for the Prompt and Accurate Execution of Oculists' Prescription Orders.

E. B. Meyrowitz

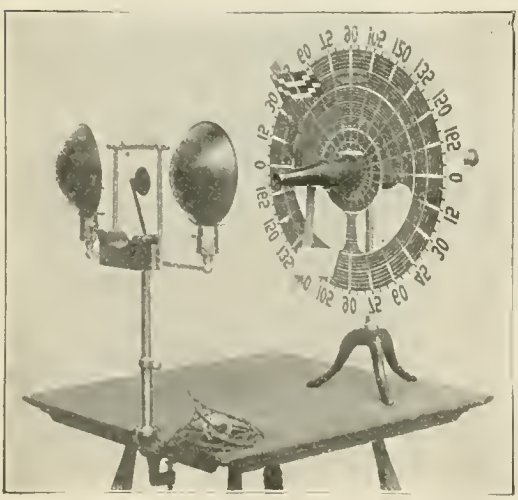
MANUFACTURER OF

Ophthalmometers Perimeters Phorometers
Refractometers Tropometers Ophthalmoscopes
Skiascopes, X-Ray Apparatus, Etc.

SEND FOR ILLUSTRATED CATALOGUE.

360 ST. PETER STREET, ST. PAUL.
604 NICOLLET AVE., MINNEAPOLIS, MINN.
104 EAST TWENTY-THIRD STREET, } NEW YORK.
125 WEST FORTY-SECOND STREET, }
3 rue Scribe, Paris, France.

The JAVAL OPHTHALMOMETER



Satterlee's Model

PORTABLE.
NEAT.
ACCURATE.
CLEAREST IMAGES.
LESS COST.

Rack and Pinion Raising and Lowering Attachment.

Satisfaction Guaranteed.
Write us for prices on

PHOROMETERS, TRIAL CASES AND ALL KINDS OF OPTICAL INSTRUMENTS

For Prices, Cash Discount, etc., address

The Buffalo Ophthalmometer Co.

59 Chapin Block, Buffalo, N. Y.

When writing please mention the Ophthalmic Record.

P. M. WRIGHT,

103 E. Adams Street, Chicago.

Dealer in

Foreign & Domestic Medical Works

PERIODICALS A SPECIALTY

A full line of American, English, German, French and Italian Catalogues of Recent and Second-Hand Ophthalmic Literature always on hand.

CHICAGO EYE, EAR, NOSE AND THROAT COLLEGE

A Clinical School for Practitioners of Medicine

Unexcelled equipment. Abundant material. Clinical instruction. Courses one month in duration. Practitioners may enter at any time; equal advantages the year round.

FACULTY

WILLIAM A. FISHER, M. D.,
JOHN R. HOFFMAN, M. D.,
HORACE M. STARKEY, M. D.
THOMAS FAITH, M. D.
JOHN F. OAKS, M. D.
EDWIN PYNCHON, M. D.
A. G. WIPPERN, M. D.
W. H. PECK, M. D.
E. S. ANTISDALE, M. D
H. W. BERARD, M. D.
A. KENNEDY MCLEAN, M. D.
WILLIAM A. MANN, M. D.
H. W. WOODRUFF, M. D.
WM. H. WEAVER, M. D.
J. G. HUIZINGA, M. D.
EDWARD M. WEBSTER, M. D.

We conduct a Free Clinic for the worthy poor, only, to which physicians are invited to send their charity cases.

WRITE FOR CATALOGUE AND INFORMATION TO

WM. A. FISHER, M. D., President. J. R. HOFFMAN, M. D., Secretary, Trude Bldg., 67 Wabash Ave., Chicago

---

IF YOU INTEND

Taking out any Post-Graduate Course in Chicago, be sure and first communicate with the publisher of the OPHTHALMIC RECORD. The High Building, Chicago.

DOCTOR! *Do you treat Diseases of the* ***NOSE, THROAT*** *and* ***EAR?*** *If so you cannot afford to be without*

...THE LARYNGOSCOPE...

The Representative Journal of Record of Oto-Laryngology.

Note its many claims for special recognition.—

It is the only *regular* Monthly Journal *exclusively* devoted to the diseases of the *Nose, Throat and Ear.*
It is the *Official Organ* of three of our *Representative Oto-Laryngologic Societies.*
It will keep you informed of the *progress of the world* in this trio of specialties.
It contains more *original matter* than any journal published representing these specialties.
It always enjoys the *contributions* and *endorsements* of the *best and ablest writers* in the profession.
It is managed by a *live Editorial Staff*, and free from the influence of any clique or society.

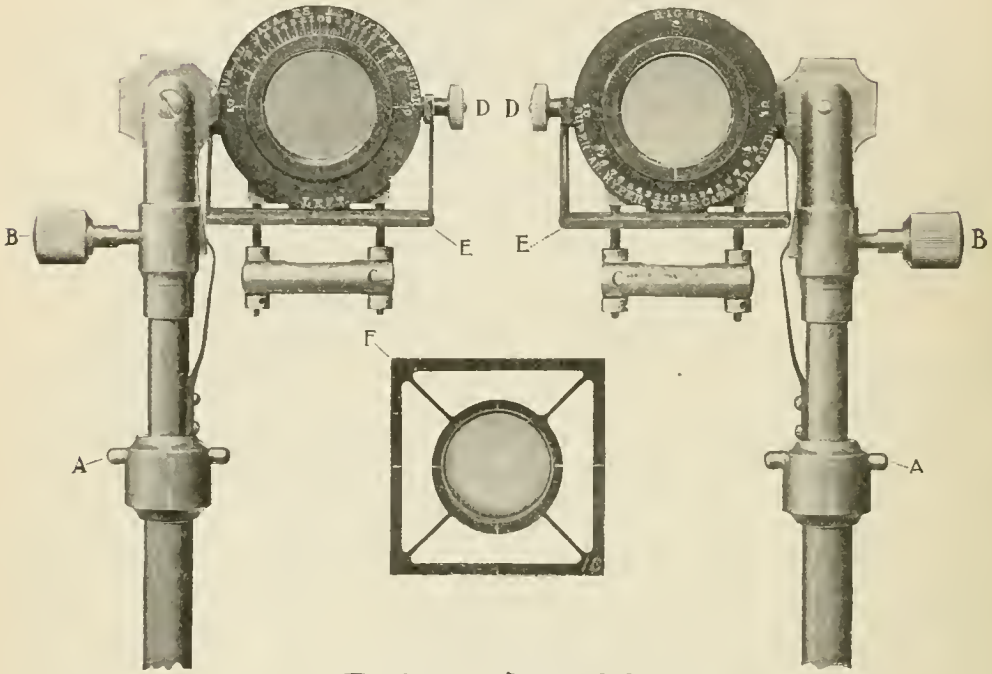
Its subscription price places it within the reach of all. ***Only $2.00 per annum, in advance.***

We offer the Laryngoscope and The Ophthalmic Record to new subscribers for $4 00 per annum.

Address THE LARYNGOSCOPE, 3702 Olive Street, St. Louis, Mo.

THE

SAVAGE MONOCULAR PHOROMETER



Price, $35.00

The stand is placed on the floor, and has a horizontal arm to bring the instrument in front of the patient.

The instrument itself fits into a vertical tube, which is slotted so as to receive the pins *A*, so that by simply raising the instrument in the tube and revolving it, it can be brought quickly before either eye.

A level *C* is attached, and the instrument is leveled by the set screw *B*.

The faces are lettered respectively, right and left, with abbreviations indicating the character of the error.

The revolving prisms are rotated by the screw *D*, so as to give a total pair of 10 degrees.

Before each face there is a square holder *E*, to receive the supplementary prisms *F*, of which four accompany the instrument. The holder for the supplementary prisms being perforated admits of the notations being read through the perforations.

DENVER ~ PARIS **F. A. Hardy & Co.** 131 Wabash Avenue, Chicago, Illinois

THE

Post-Graduate Medical School

OF CHICAGO

W. FRANKLIN COLEMAN, M. D., Prest. L. L. McARTHUR, M. D., Vice-Prest.
W. L. BAUM, M. D., Treas. A. R. ELLIOTT, M. D.

Is now located in its new building,

2400 Dearborn Street

A school for practitioners of Medicine and Surgery.

Teaching exclusively Clinical.

Abundance of material.

Large hospital in School Building.

Send for latest Bulletin of information to

FRANKLIN H. MARTIN, M.D., Secy, 2400 Dearborn St.

Annals of Ophthalmology

The largest illustrated Quarterly Eye Journal published. Each issue over 200 pages of original matter and properly drawn up abstracts of recent Domestic and Foreign Ophthalmic Literature.

Subscription price, $4.00 per annum.

Annals of Otology, Rhinology and Laryngology

Each issue over 150 pages original matter and properly drawn abstracts of recent Domestics and Foreign Literature.

Both Journals, $5. *Subscription price, $3.00 per annum.*

We will furnish the **ANNALS OF OPHTHALMOLOGY** and the **OPHTHALMIC RECORD** for **$6** per annum; the **ANNALS OF OPHTHALMOLOGY** and the **ANNALS OF OTOLOGY** and the **OPHTHALMIC RECORD** for **$7** per annum in advance to new subscribers.

ADDRESS

JONES H. PARKER, Publisher,

13 North Second Street, ST. LOUIS, MO.

When writing, please mention the Ophthalmic Record.

De Zeng's Corneal Microscope.

For viewing and photographing the anterior portions of the eye under an amplification of from twenty to one hundred and fifty diameters. The iris, cornea, conjunctiva and sclera are beautifully shown by day illumination, the lens being best observed by oblique artificial light with dilatation :: :: :: :: :: :: :: :: :: :: :: :: ::

The great depth of penetration, with the exceptionally long working distance, wide angle and large flat field of the objective, brings the entire cornea and iris into view at once. A Micrometer Scale is furnished with each instrument for measuring pupillary reactions.

Price of Microscope with 2½ inch eye piece, giving powers of from twenty to fifty diameters, $80.00
Extra eye pieces for higher powers, each - - - - - - - - - - - - 6.00
Head Rests in different styles, - - - - - - - - - - - - $7.50 to 15.00

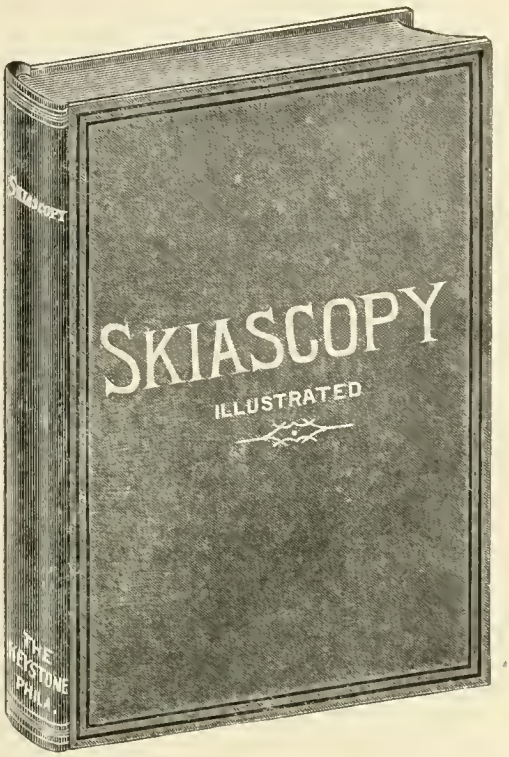
For further particulars regarding the use of the instrument, its application to photography, and discounts, address

CATARACT OPTICAL COMPANY,

- - - - MANUFACTURERS - - - -

BUFFALO, N. Y.

The Shadow Test and Use of the Retinoscope



THIS NEW WORK ON SKIASCOPY far excels all previous treatises on the subject in comprehensiveness and practical value to the refractionist. It not only explains the shadow test in its practical application to the work of refraction, but expounds fully and explicitly the optical principles underlying it. In depth of research, wealth of illustration and scientific completeness this work is unique.

Bound in cloth; contains 231 pages—73 illustrations and colored plates.

Sent postpaid on receipt of $1.50.

Published by THE KEYSTONE,
19TH & BROWN STS., PHILADELPHIA, PA., U. S. A.

OWING to numerous inquiries for the 1897 volume, as well as for odd numbers of the OPHTHALMIC RECORD we announce the following: Volumes I to V may be had by ordering of us direct. The price of each of these volumes is $3.00; single numbers, as long as they last, 35 cents each. Of volume VI the price of single numbers, as long as they last, will be 50 cents each. The full volume, $5.00. Very few of the complete sets are left. The January and April numbers are out of print. Single numbers of 1898 volume, 35 cents. Complete volume, $4.00. Carriage on any of the above prepaid to addresses in United States and Canada. Address the

OPHTHALMIC RECORD

Suite 3.....The High Building.....Chicago

SNOW'S GRAPE JUICE

Is a perfect food; a nerve feeder;
a rich blood maker;
a healthful and delicious beverage for the well;
an invigorating and sustaining liquid diet for the sick;
and nature's best tonic for the convalescent.

SNOW'S GRAPE JUICE

IS PUT IN THREE BRANDS

ESPERANZA (Dry.) HYGEIA (Sweet.) SNOW'S (Heavy.)

NO ALCOHOL. NO ANTISEPTICS.

See that your dealer gives you SNOW'S. That is the guarantee of purity.

John S. Linsley, M.D., of New York City says, "THE ESPERANZA and HYGEIA brands of Grape Juice are both food and drink for the well or sick, and indispensable in a perfect dietary."

A Pint Bottle and Samples FREE to any Physician or Church who will pay Express Charges.

SNOW GRAPE JUICE CO., Penn Yan, N. Y.

RECENT MEDICAL BOOKS

DE SCHWEINITZ—Diseases of the Eye. Third edition, 696 pages, 256 illustrations, cloth, $4.00 net, prepaid.

DONDERS—An Essay on Anomalies of Refraction. Edited by Chas. A. Oliver. 80 pages, half morocco, $1.25 net, prepaid.

FUCHS—Text Book of Ophthalmology. Second American edition. Translated and revised from the seventh German edition, by A. Duane. Half morocco, $5.00 net, prepaid.

HAAB—Atlas of External Diseases of the Eye. Edited by G. E. De Schweinitz, M.D. With 76 colored illustrations on 40 plates. Cloth, $3.00 net, prepaid.

HANSELL & REBER—Muscular Anomalies of the Eye. 182 pages, 28 illustrations, cloth, $1.50 net, prepaid.

JESSOP—Ophthalmic Surgery and Medicine. 469 pages, 115 illustrations, cloth, $3.00 net, prepaid.

MADDOX—Tests and Studies of the Ocular Muscles. 427 pages, 112 illustrations, cloth, $2.75 net, prepaid.

OHLEMANN—Ocular Therapeutics. With many formulæ. 274 pages, $1.75 net, prepaid.

RAMSAY—Atlas of External Diseases of the Eye. By A. Maitland Ramsay, M.D. With 30 full-page colored plates and 18 full-page photogravures. 4to, 211 pages, half morocco, gilt top, $20.00 net, prepaid.

ROOSA—Defective Eyesight. 36 Illustrations, 188 pages, cloth, $1.00 net, prepaid.

Complete Catalogue and Clearance List on Application

CHICAGO MEDICAL BOOK CO.

Publishers, Importers and Dealers

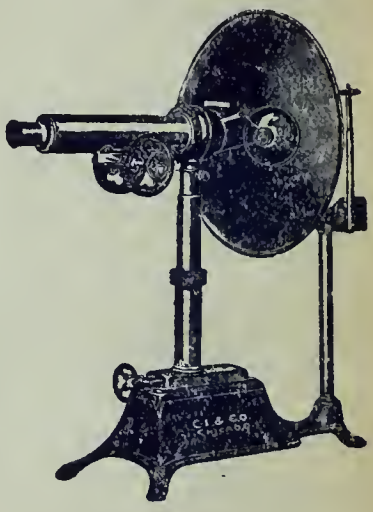
N. W. Cor. Randolph St. and Wabash Ave.

CHICAGO

Chambers, Inskeep & Co.'s

American Ophthalmometer

Patented



Does away with the cumbersome lights about patient's face. Gives absolute uniformity of illumination because the mires are self-luminous. Gives positive and accurate readings of Curvatures of Cornea. Is easily operated.

As to its being the best in the world,

The profession shall be the judge.

Write for descriptive pamphlet.

CHAMBERS, INSKEEP & CO.

MANUFACTURERS

88 and 90 Wabash Avenue, ... Chicago, Illinois, U. S. A.